

May 3, 1932.

G. M. TURNER

1,856,935

RACK

Filed May 9, 1930

FIG. 1

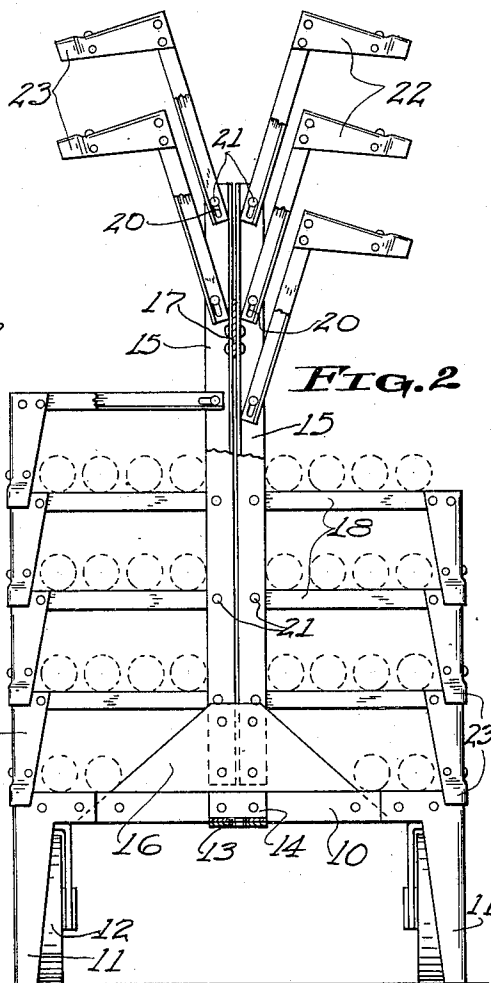
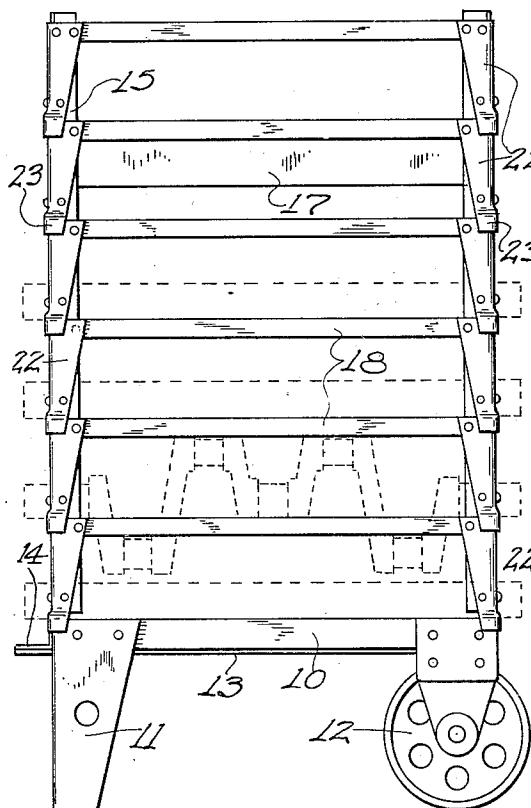


FIG. 2

FIG. 4

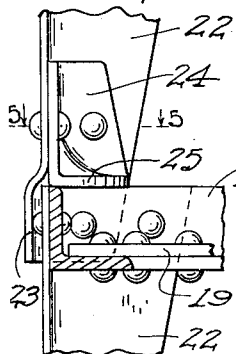
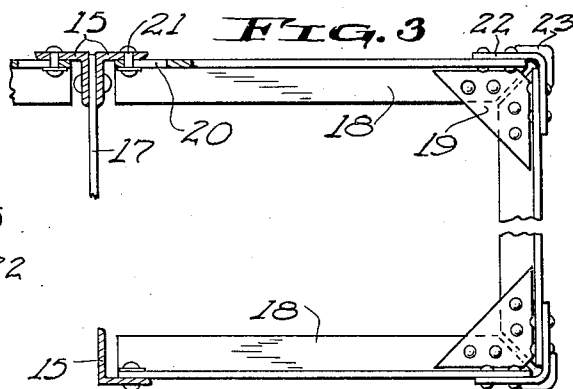
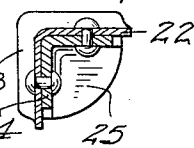


FIG. 5



WITNESSES

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RACK

Application filed May 9, 1930. Serial No. 451,026.

The invention relates to racks for the storage and transportation of materials in factories.

An object of the invention is to provide a simple and durable transport rack on which a large number of articles in process of manufacture in a factory can be carefully placed in compact relation and expeditiously handled during a series of manufacturing operations.

Another object of the invention is to provide a transport rack including a plurality of pivotally mounted frames arranged one above the other and each adapted to be swung between an upper idle position and a lower article-receiving position for facilitating careful loading and unloading of the frames.

A further object of the invention is to provide a rack of this character in which each of the pivotally mounted article-receiving frames has leg portions at its outer parts adapted to releasably rest on the subjacent frame.

A further object of the invention is to perfect details of construction generally.

The invention further consists in the several features hereinafter set forth and more particularly defined by the annexed claims.

In the accompanying drawings, Fig. 1 is a side elevation of a transport rack embodying the invention;

Fig. 2 is a front elevation of the rack, parts being broken away and parts being shown in section, and some of the article-receiving frames being shown in elevated idle position;

Fig. 3 is a detail top plan view of one of the article-receiving frames and its mounting, parts being broken away and parts being shown in section;

Fig. 4 is a detail sectional view of one of the frame legs and its support, and

Fig. 5 is a detail sectional view of one of the frame legs taken along the line 5—5 of Fig. 4.

In these drawings, the numeral 10 designates a rectangular base frame having a pair of legs 11 secured thereto at adjacent corners thereof and having a pair of wheels 12 mounted thereon at the other corners. The frame

is provided with a re-enforcing bar 13 extending therebelow and terminating at the front end of the frame in abutment with an angle clip 14 which is secured to the frame and is apertured to receive a wheeled jimmy (not shown) by which the wheeled frame may be drawn or pushed about as a truck.

Uprights or columns are secured to intermediate portions of the opposite ends of the base frame 10 and each includes a pair of adjacent angles 15 fastened at their lower ends to a gusset plate 16. The two opposite pairs of upright angles 15 are connected near their upper ends by a plate 17 which is secured between spaced parallel flanges of the angles.

A plurality of article-receiving frame members 18 are pivotally secured to the uprights 15 to extend from opposite sides thereof. In the present instance, each frame member is shown to be of U-shape and as formed of angles joined by gussets 19 at the corners of the frame member. At each of its inner ends, each U-shaped frame member is provided with a slot 20 in its vertical wall, the slot extending in parallel relation to the plane of the frame member. Rivets 21 are fixedly secured in the upright angles 15 and are pivotally and slidably received in the slots 20. The outer corners of each frame member 18 are provided with leg members 22 of angle cross-section, the leg members being riveted or otherwise fixedly secured in place. Each leg member is provided with an outwardly offset projection 23 at its lower end to fit over the upper corner of the subjacent frame member, and a heavy sheet metal clip 24 is riveted within each leg a short distance above the lower end of the leg to present a ledge 25 which rests on the upper corner portion of the subjacent frame member.

Each U-shaped frame member 18 is adapted to form a support on which articles in process of manufacture, such as crank-shafts, cam shafts, or other objects, may be placed. When forming such support, each frame member 18 is in a substantially horizontal position with its legs resting on the subjacent frame member or base frame 10, as the case may be.

Preparatory to loading the rack; all of the

frame members 18 are swung upwardly to the position seen in the upper part of Fig. 2, in which the inner ends of the frame members slide downwardly a short distance along the rivets 21, the frame members being then held in angular position by the engagement of their inner corners with the inwardly-projecting flanges of the upright angles 15. The base frame 10 is then freely accessible from above and from both ends to receive several shafts thereon, whereupon each of the two frame members 18 immediately above the base frame is pulled upwardly a short distance to enable the inner end of the frame member to clear the flanges of the upright angles 15 and thus permit the frame member to be swung downwardly into a horizontal position with the legs of the frame member resting on the base frame. In this lower position of the frame members 18, the shafts resting on the base frame 10 are restrained against accidental displacement therefrom. Each of the two lowermost frame members is then freely accessible from above to receive a number of shafts thereon, whereupon the succeeding frame members are swung down in a similar manner until the rack is loaded. The weight of the loaded frame members is transmitted to the base frame through the angles 15 and through the legs 22. In the case of crank-shafts, the throws of the shafts occupy the open spaces within the U-shaped frame members. The frame members may, of course, assume various shapes, such as trays or boxes, to accommodate different articles of manufacture.

The rack may be moved about the factory by means of a wheeled jimmy, as heretofore described, or it may be carried by a power truck of the elevating type.

When the rack is to be unloaded, the uppermost frame members 18 are swung to their upper inclined positions to permit ready removal of the shafts on the next lower frames, after which each of the succeeding frame members is unloaded and swung upwardly in a similar manner.

By means of the rack a large storage capacity is obtained for a given amount of floor space, and the articles can be easily loaded on the rack and unloaded therefrom, as the frames are freely accessible from above.

This accessibility enables the articles to be carefully placed on the rack and removed therefrom without danger of damaging finished surfaces or injuring delicate parts.

What I claim as new and desire to secure by Letters Patent is:

1. In a rack, the combination of a frame including a pair of flanged uprights, a plurality of pivot members secured to said uprights in spaced relation thereon, and a plurality of supports arranged one above the other and each having a pair of slots at its opposite inner ends slidably receiving said

pivot members therein, said supports being pivotally mounted on said pivot members to swing from a lower article-receiving position to an upper idle position, and each support in its upper idle position having its slotted inner ends projecting downwardly from said pivot members to engage the flanged portions of said uprights.

2. In a rack, the combination of a plurality of article-receiving supports arranged one above the other and each having corner portions and having leg members of angle cross-section secured thereto at said corner portions, and a ledge member secured within each leg member in spaced relation to the lower end of said leg member to releasably rest on the upper corner portion of the subjacent support, the portions of each leg member below said ledge being disposed laterally adjacent the upper corner portion of the subjacent support.

3. In a rack, the combination of a frame including uprights, a plurality of pivot members secured to said uprights, and a plurality of swingable supports arranged one above the other and having slotted inner portions shiftably receiving said pivot members therein, said supports being movable between upper and lower positions, each support in its upper position having its inner portion shifted downwardly on its pivot members, and retaining means engageable with the downwardly shifted ends of the elevated supports.

4. In a rack, the combination of a frame, a plurality of swingable supports pivotally mounted on said frame and arranged one above another, said supports each having outer corner portions, and angle members carried at the outer corner portions of said supports and releasably engageable with the corner portions of the adjacent supports, said angle members at their end portions overlapping the corner portions of the adjacent supports.

5. In a rack, the combination of a frame, a plurality of article-receiving supports arranged one above another and having pivotal mountings at their inner portions on said frame, said supports being swingable about their pivotal mountings between a lower article-receiving position and an upper idle position, lost motion connections between said supports and said frame permitting the inner portions of said supports to be shifted inwardly, and means co-operating with said inner portions when inwardly shifted for releasably retaining said supports in their upper positions.

In testimony whereof, I affix my signature.
GILES M. TURNER.