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Patented June 8, 1909.

3 SHEETS—SHEET 1.

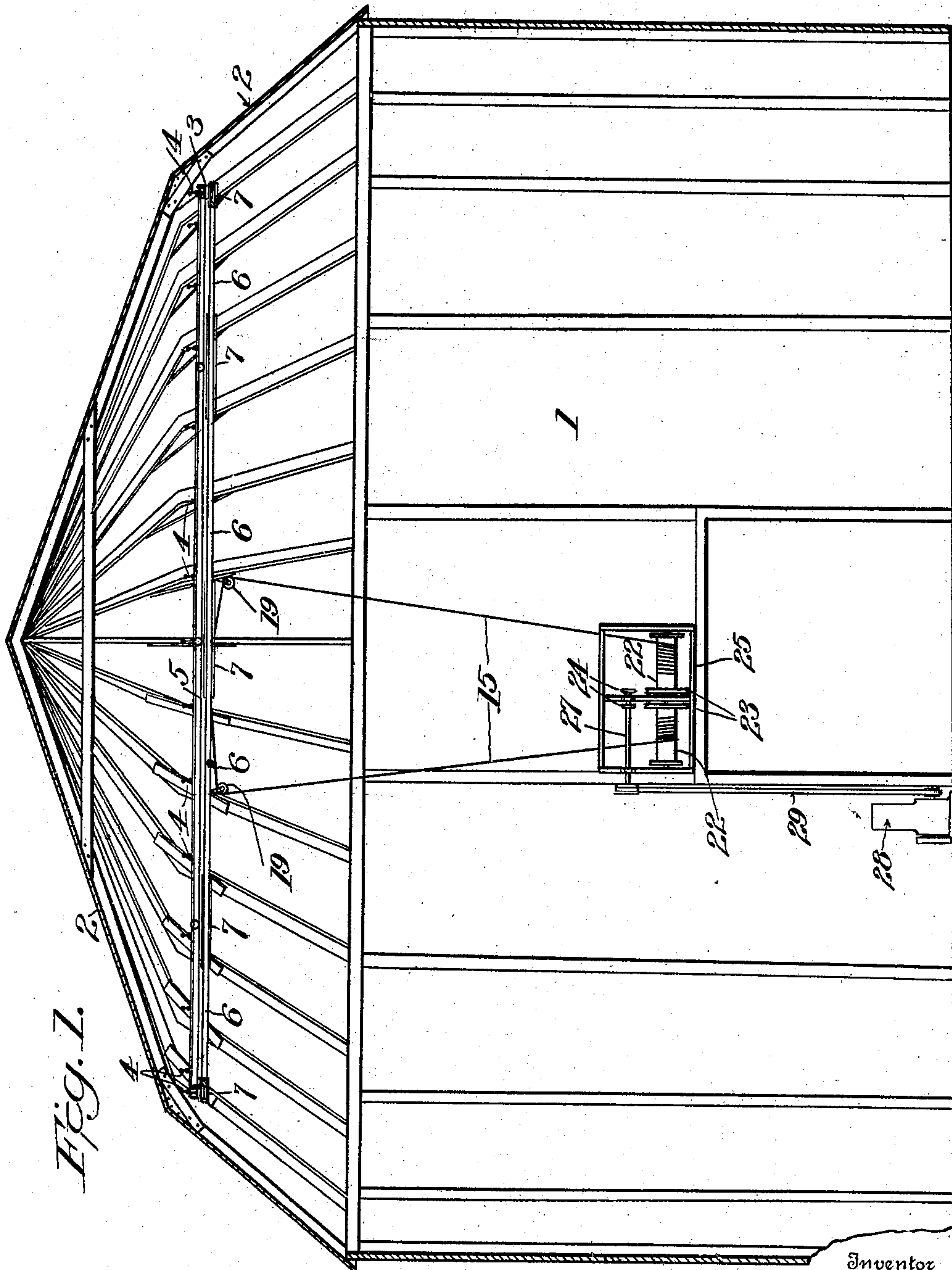


Fig. 1.

Witnesses

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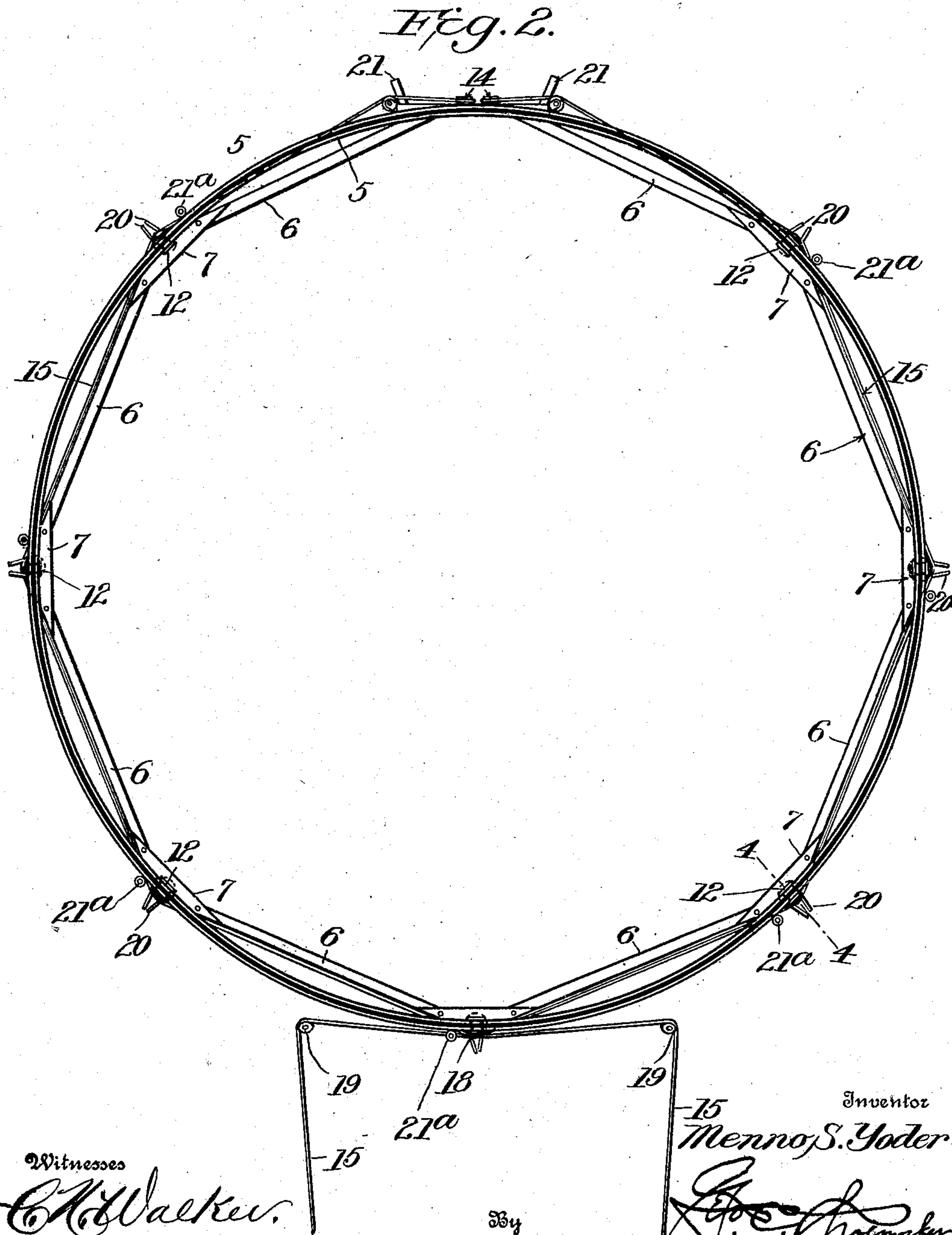
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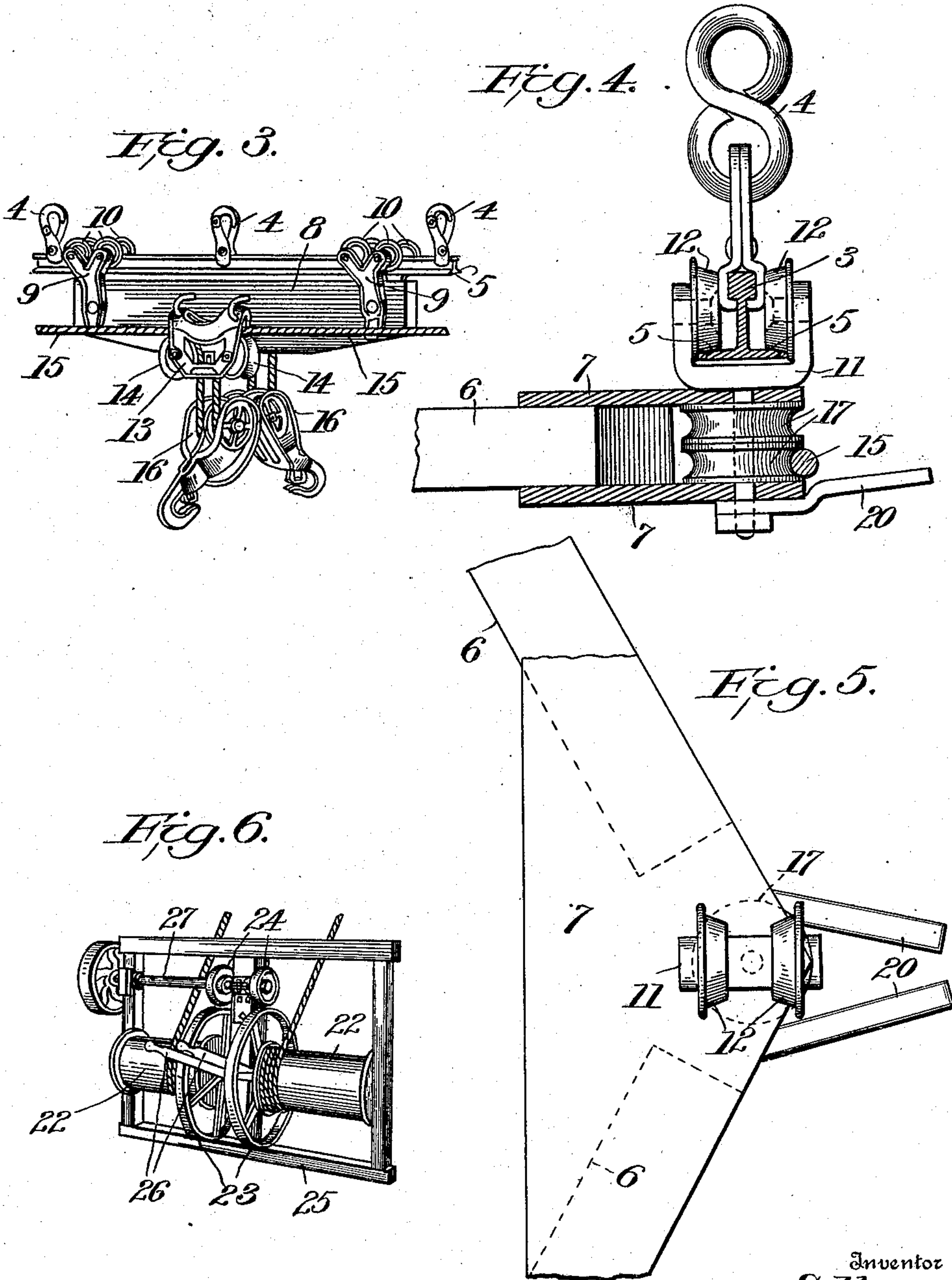
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# UNITED STATES PATENT OFFICE.

MENNO S. YODER, OF SHIPSHEWANA, INDIANA.

## HOISTING OR CARRYING MECHANISM FOR BARNS.

No. 923,923.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed October 14, 1908. Serial No. 457,675.

*To all whom it may concern:*

Be it known that I, MENNO S. YODER, a citizen of the United States, residing at Shipshewana, in the county of Lagrange and State of Indiana, have invented certain new and useful Improvements in Hoisting and Carrying Mechanism for Barns, of which the following is a specification.

The present invention relates to hoisting and carrying mechanism for barns, particularly those of the circular or polygonal type.

The primary object of the present invention is to provide in connection with a circular track, hoisting mechanism that can be carried around the track and requires no track stop or tripping device to release the carrier. In other words, it has been the aim to provide mechanism which will lift the load from any point, will carry it to any height, and will run it along in either direction without change of rope or hitch.

The preferred embodiment of the invention is illustrated in the accompanying drawings, and is described in the following specification, but it will be evident from an inspection of the claims hereto appended that the invention is not necessarily limited to the structure disclosed.

In the drawings:—Figure 1 is a vertical longitudinal sectional view through a barn, showing the mechanism in place. Fig. 2 is a top plan view of such mechanism. Fig. 3 is a perspective view of the carrier preferably employed. Fig. 4 is a vertical sectional view on an enlarged scale substantially on the line 4—4 of Fig. 2. Fig. 5 is a plan view of the structure disclosed in Fig. 4, but with the track removed. Fig. 6 is a detail perspective view of one form of hoisting mechanism that may be employed.

In the accompanying drawings, the barn is designated generally by the reference numeral 1, and has a roof 2 from which is suspended a circular track 3 by means of a series of suitable hangers 4. This track may be of any well known type, but is preferably provided with oppositely extending track flanges 5.

Located beneath the track is a continuous frame formed of a series of angularly disposed beams 6, joined at their adjacent ends by triangular pieces 7 secured to the upper and lower faces of the end portions of the

beams 6 and projecting beyond the same. The frame also includes, as a part of its make up, a bar 8 constituting the body of a carrier, this bar having suitable brackets 9 on which are journaled trolley wheels 10 that run upon the track flanges 5 of the track. Other brackets 11 are located at the juncture of the several beams 6 and have trolley wheels 12 that operate on said track flanges 5.

A hanger 13 secured to one side of the carrier body 8 has pulleys 14 therein, and over said pulleys pass oppositely extending stretches or runs 15 of a cable, said cable passing downwardly through sling pulleys 16 and being secured to the opposite side of the body 8. This structure will be evident by reference to Fig. 3. The sling pulleys may be of any desirable character. The oppositely extending stretches or runs 15 of the cable pass around the opposite outer side of the frame 6—7 and around sets of horizontally disposed guide pulleys 17 journaled between the angular plates 7. The end portions of these stretches or runs are crossed, as shown at 18 in Fig. 2, and extend in opposite directions for some distance, thence over suitable pulleys 19 from which they may be carried in any desired direction and to any suitable hoisting mechanism. In order that the cable may not drop off the pulleys 17, outstanding fingers 20 are preferably employed, arranged beneath the plates 7. In like manner outstanding guard strips 21 are preferably located at the end of the carrier body 8, as illustrated in Fig. 2. Rollers as 21<sup>a</sup> may be employed, said rollers being secured to the frame and operating against the outer side of the track for the purpose of preventing binding engagement due to lateral strains upon the frame.

As above stated, any suitable hoisting mechanism may be employed, disposed in any relation desired or found satisfactory, but in order to disclose a completely operative structure, I have shown in Figs. 1 and 6 a pair of hoisting drums 22 about which the ends of the cable are wrapped. These drums have on their adjacent ends friction wheels 23 and said ends can be raised and lowered so as to bring the friction wheels either into engagement with driving friction wheels 24 or with a brake beam 25. The said ends are raised and lowered by means



of suitable levers 26. The driving friction wheels 24 are mounted on the shaft 27 driven from any suitable source of power, as for instance an explosive engine 28 geared thereto, as shown at 29.

The operation of the structure is substantially as follows:—Assuming the sling pulleys 16 in their lowered position, the material or article to be elevated is suitably engaged therewith and both drums 22 are raised so that their friction wheels 23 will engage the driving friction wheels 24. Both stretches or runs of the cable will thus be simultaneously wound up, causing the elevation of the sling pulleys, together with the load attached to them. When the load has been raised to the desired height, one or the other of the drums 22 is lowered. The result is that the entire frame 6—7 will be rotated in one direction or the other, and this rotation is continued until the load is brought to the desired point of release. With this structure therefore, any material or article can be raised to the upper portion of the barn and carried freely in either direction without the necessity of changing the rope and without using any track stop or tripping device.

As already stated, the arrangement of the parts together with their relative positions can be altered if desired, and means can also be associated with the driving shaft 27 for positively lowering or drawing downward the sling pulleys.

It is also to be understood that other changes, as for instance in the size and proportion of the parts can be made without departing from the invention as defined by the appended claims.

Having thus described my invention, what is claimed as new is:—

1. The combination with a circular track, of a continuous rotary supporting frame hung from the track, hoisting mechanism suspended from the frame, and means for operating the hoisting mechanism and rotating the frame.

2. The combination with a continuous circular track, of a continuous rotary supporting frame associated with the track, rollers carried by the frame at intervals and operating on the track, hoisting mechanism suspended from the frame, and means for operating the hoisting mechanism and rotating the frame in either direction.

3. The combination with a circular track, of a rotary supporting frame movably mounted thereon, a sling holding device, and a cable connected to the device and extending around opposite sides of the frame for elevating said device and rotating the frame in opposite directions.

4. The combination with a circular track, of a continuous supporting frame rotatably mounted thereon, a hoisting device, and a

cable connected to the hoisting device and having opposite stretches extending around opposite sides of the frame for elevating said device and rotating the frame in opposite directions.

5. The combination with a stationary circular track, of a continuous rotary supporting frame located below the track, trolley wheels carried by the frame and operating on the track, pulleys carried by opposite portions of the frame, a hoisting device, and an elevating cable for the device passing around different sides of the frame and operating against the pulleys.

6. The combination with a continuous circular track, of a continuous frame located beneath the same and comprising angularly disposed connected bars, trolley wheels carried by the frame at the connections of the bars and operating on the track, outstanding pulleys located at the connections of the bars, a hoisting device, and a cable for operating the device and rotating the frame, said cable having stretches extending in opposite directions from the hoisting device around the frame and engaged with the pulleys.

7. The combination with a continuous overhead track, of a support movable thereon, and a cable for rotating the support in opposite directions, having stretches extending in opposite directions around the track and having said stretches crossing.

8. The combination with a continuous overhead track, of a rotatable support mounted thereon, and a cable for rotating the support in opposite directions, said cable having stretches extending in opposite directions around the track, the end portions of said stretches being crossed.

9. The combination with a continuous overhead track, of a continuous rotary supporting frame having trolley wheels operating on the track, outstanding pulleys carried by the frame, a cable passing in opposite directions around the frame and bearing against the pulleys, other pulleys mounted independently of the frame at one side of the same, and a cable extending in opposite directions around the frame, said cable having the ends of the oppositely extending portions crossed and extending over the last mentioned pulleys.

10. The combination with a continuous overhead track, of a continuous support movable thereon, a hoisting device associated with the support and movable toward and from the same, and a single cable for rotating the support in opposite directions and for raising and lowering the cable.

11. The combination with a circular continuous track, of hangers for suspending the track, a frame located below the track and consisting of a plurality of angularly disposed connected bars, trolley wheels secured to the frame and operating on the track, a



plurality of sets of horizontally disposed pulleys carried by the frame, a hoisting device, a cable connected to the hoisting device and extending in opposite directions around the frame and in engagement with the pulleys, said cable having its oppositely extending portions crossed, winding drums upon which the ends of the cable are wrapped, and means

for effecting the simultaneous or independent rotation of the drums.

In testimony whereof I affix my signature,  
in presence of two witnesses.

MENNO S. YODER.

Witnesses:

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