Feb. 15, 1927. 1,617,820

E. H. MORTAG

EXTENSION SIDE LOADER

Filed March 16, 1925 3 Sheets-Sheet 1

Fig.1.

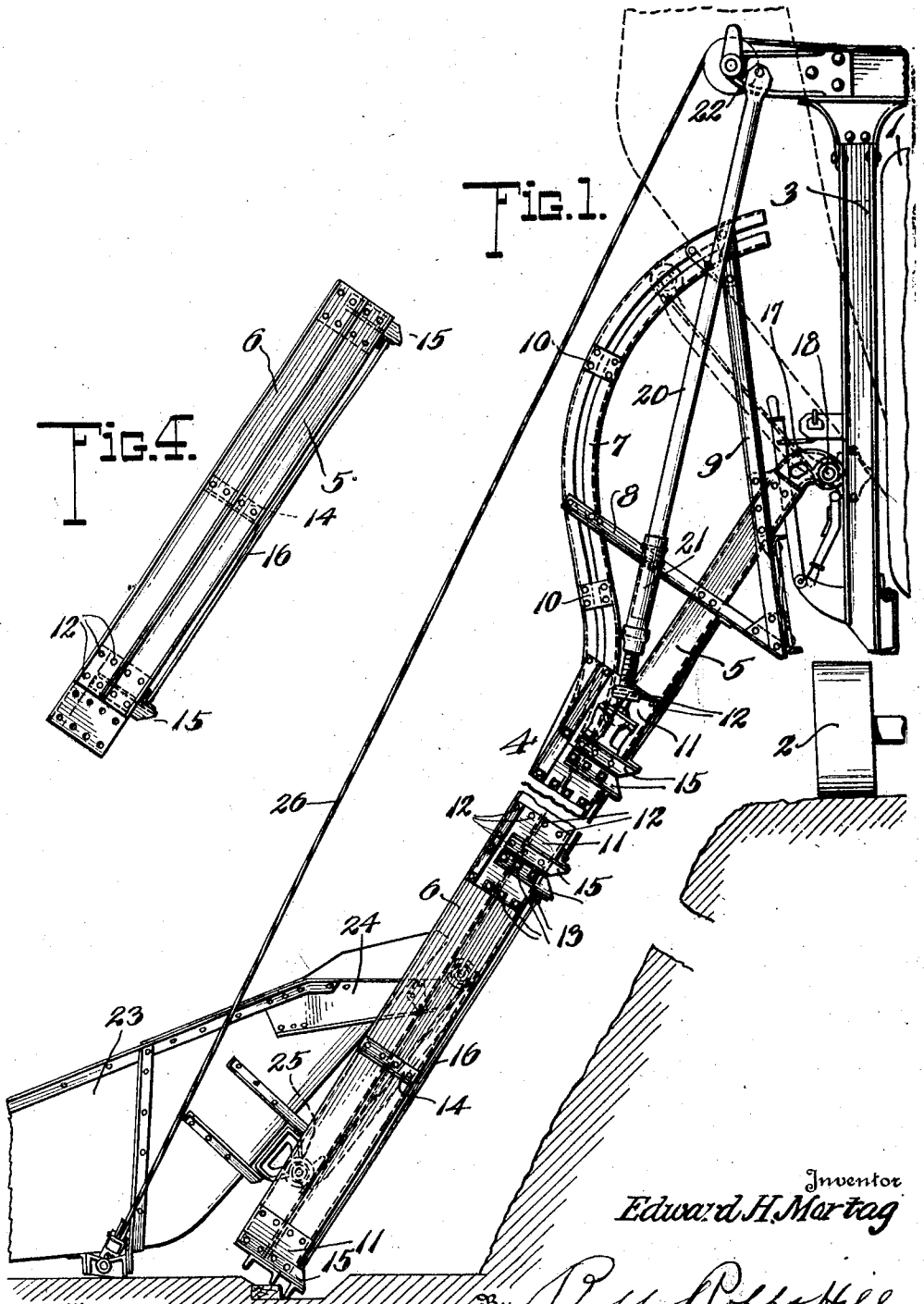


Fig.4.

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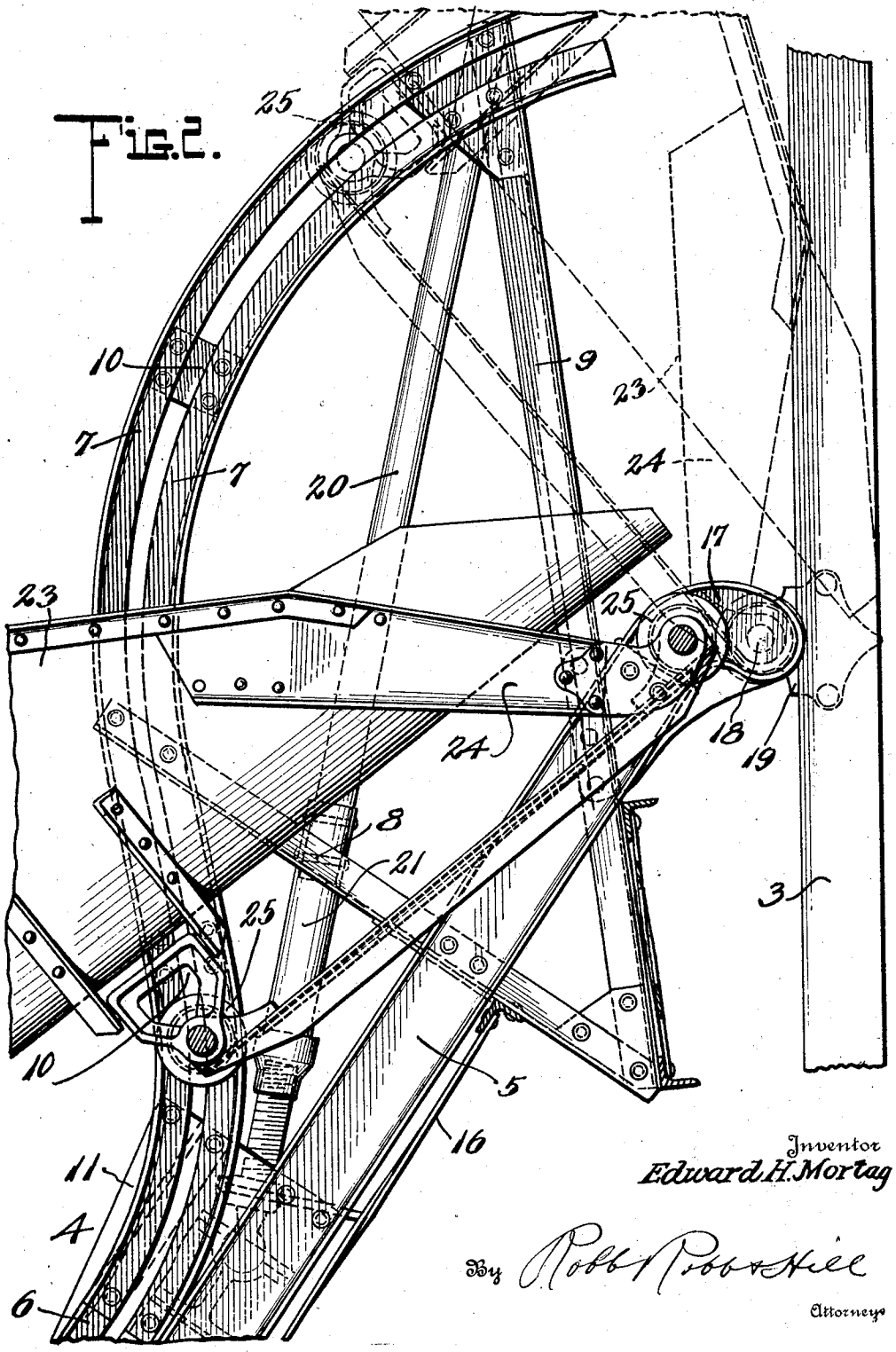
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Fig. 2.



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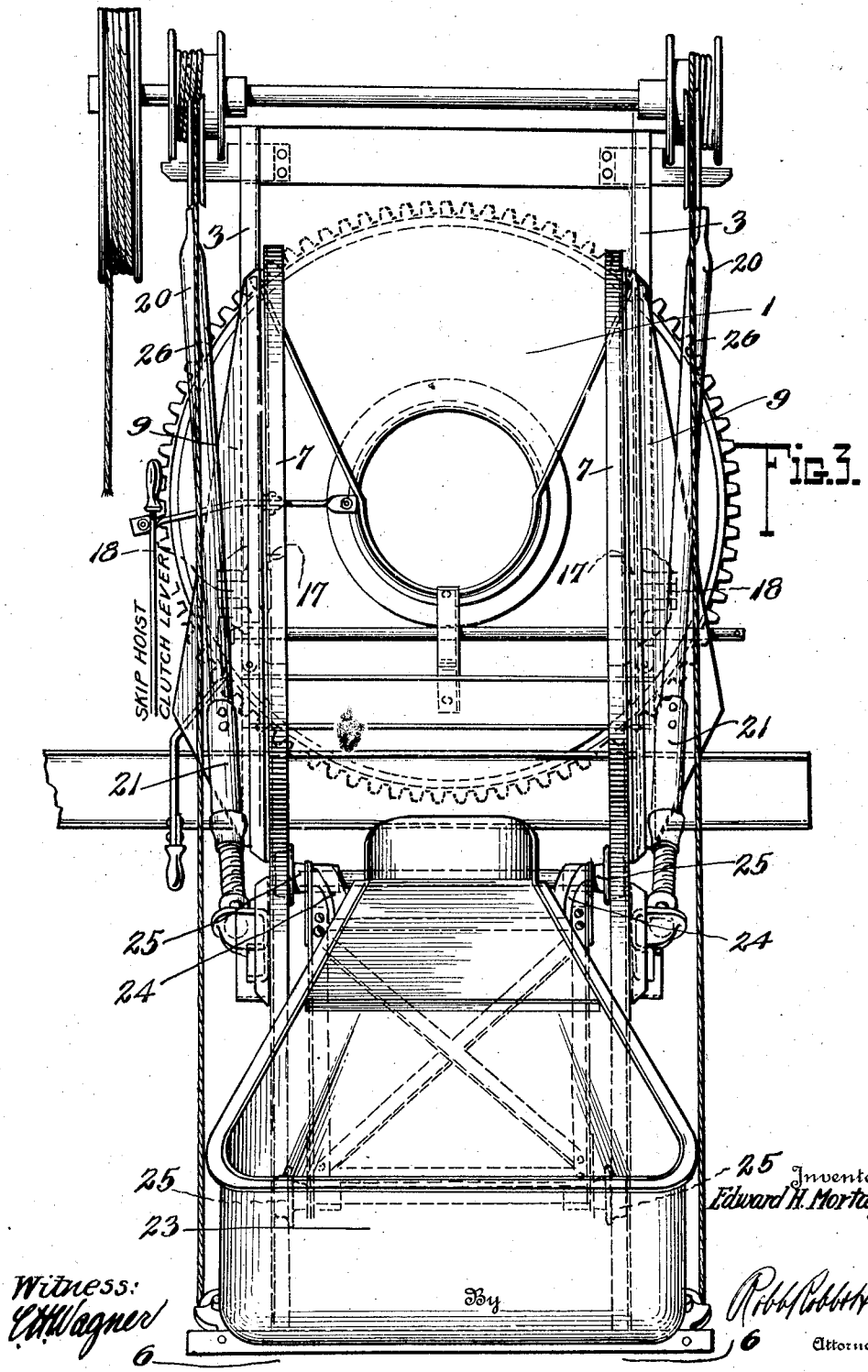


Fig. 3.

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UNITED STATES PATENT OFFICE.

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EXTENSION SIDE LOADER.

Application filed March 16, 1925. Serial No. 15,920.

In the art of concrete mixing machines, it has heretofore been proposed to employ loading means known by the name of extension loaders. Loading means of this type involve the provision of a track or runway adapted to be connected with the frame work of the mixing machine at the loading side of the mixing drum upon which track or runway a loading bucket or skip is adapted to travel. The track or runway is usually of sufficient length to permit of the skip traveling over a relatively low elevation at which it is loaded, upward to a higher elevation upon which the mixing machine may be supported.

Loading means of the class above set forth are useful in handling the loading of concrete mixers when the loading point is at one elevation and the mixer is mounted on a level at a higher elevation, and the object of this invention has been to devise a novel construction of extension loader of the class referred to.

The loader of this invention comprises a special construction of track or runway composed virtually of separate pairs of rails disposed in spaced relation, one rail acting primarily as a supporting and guiding rail for the skip, and the other rail acting as a tilting and supporting rail for the skip.

Included in the invention are some other detailed features of construction, such as a special adjusting brace, interposed between the frame of the mixer and the extension loader attachment connected therewith, and other features which will appear more fully as the description proceeds.

In the accompanying drawings:

Fig. 1 is a side elevation of an extension loader embodying the invention, the skip shown in full lines in its lower position for loading, and in dotted lines in its upper position for dumping;

Fig. 2 is an enlarged sectional view bringing out more clearly the cooperation of the skip-supporting rollers with the guiding and tilting rails;

Fig. 3 is a front elevation of the extension loader apparatus;

Fig. 4 is a side view of one of the track sections.

Referring to the drawings, there is seen at 1 the mixing drum of the mixing machine with which the extension loader of this invention is used. Said machine includes the usual base or truck on wheels 2 or other equivalent supporting means, and the frame work 3 of conventional construction.

The extension loader itself is composed of what may be characterized as two spaced tracks or runways generally designated as 4. Each of these tracks is composed of a lower supporting and guiding rail 5 and an upper supporting and tilting rail 6. The rail 6 is provided at its upper end with a curved tilting section 7, whereas the rail 5 is straight throughout its length. The rail 5 is connected by braces 8 and 9 with the upper curved section 7 of the rail 6, a rigid construction being thus obtained.

The rail 5 is preferably made up of one or more sections consisting of ordinary channels. Rail 6 is similarly constructed of channels except with respect to its section 7. The latter is made up preferably of angle iron members somewhat spaced and connected by plates 10 riveted thereto, the angle iron being used primarily to facilitate the bending of the rail upon the proper arc to enable it to perform its function later described.

The rails 5 and 6 are securely fastened to one another by means of plates 11 which are preferably riveted to upper sections of the rails and bolted or otherwise detachably secured to the lower sectoins, the rivets being designated 12 and the bolts 13. Additional plates 14 may be used to permanently connect the rails 5 and 6 at intervals in their lengths. By means of the detchable connection 13, it is obvious that the tracks each comprising the rails 5 and 6 may be lengthened or shortened by adding to or removing therefrom sections of rail lengths, one of these sections as a unit being illustrated in Figure 4. In addition to the plates 11 secured to the outer sides of each track 5—6 there are applied to said tracks at the outer sides of the plates 11 small angle plates 15 with which are connected crossed truss rods 17 for bracingly connecting the two tracks together in spaced relation. The lower plates 15 are preferably connected with the tracks to which they are applied by the detachable bolts or fastenings 13 and the upper plates may be riveted to the sections of the tracks with which they are connected.

The rail 5 of each track is equipped at its upper end with a connecting member 17 in the form of a casting grooved on its inner

face so that its groove forms a continuation of the channel or groove on the inner face of each rail 5. This connection or casting 17 is pivotally attached at 18 to a bracket 19 mounted on the frame work 3 of the mixing machine.

There may or may not be used with the tracks or runways just described braces 20 each of which includes a bar having a screw jack connection 21 at its lower end with the runway or track mentioned, and at its upper end a suitable connection as at 22 with the frame work 3 of the mixer. The adjustable connection comprising the parts 20 and 21 is useful to hold the extension loader tracks or runways at different pivotal adjustment in relation to the frame work 3 of the mixing machine.

The loading device proper consists of a skip 23 which is of a common type generally used at this time, said skip is provided with the pivot brackets 24 having the rollers 25 adapted to travel in the lower rail 5 of each track and said skip is also equipped at each side with a roller 25 adapted to travel in the upper rail 6 and its curved section 7.

A hoisting cable 26 will be used as customary for raising and lowering the skip 23 and will be operated by the customary windlass or drum winding mechanism on the mixing machine.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is as follows:

1. An extension loader attachment for mixing machines comprising spaced connected tracks, each track consisting of a lower channel rail and an upper rail having a channel portion parallel to the lower rail and a continuation in the form of a curved rail section formed of assembled angle irons, and a loading skip having rollers at its opposite sides, one set of rollers adapted to travel upon the lower rails of the tracks, and the other set to travel upon the upper rails and be confined by their continuing curved sections when the skip is in dumping position.

2. In an extension loader of the class described, in combination, spaced tracks, each track consisting of a unit made up of two rails, a lower straight rail and an upper rail having its free end portion parallel to the lower rail and at its elevated end a curved tilting section, the parallel portions of said unit being made up of detachable sections adapted to be assembled and disassembled for increasing and decreasing the length of the unit, means connecting the detachable sections together, and a loading skip having two sets of rollers adapted to travel upon the track units, one set acting as pivot rollers about which the skip may move pivotally and the other rollers acting as tilting rollers to cooperate with the curved sections of the track units.

3. In combination, a mixing machine framework, an extension loader attachment therefor including spaced tracks, each track embodying a track unit composed of a lower rail having pivotal connection with the framework and an upper rail attached thereto and having a curved section for tilting a loading skip, a loading skip having separate sets of rollers adapted to travel on the upper and lower rails of the track units, and adjusting means between the framework of the machine and said track units.

4. In combination, a mixing machine framework, an extension loader attachment therefor including spaced tracks, each track embodying a track unit composed of a lower rail having pivotal connection with the framework and an upper rail attached thereto and having a curved section for tilting a loading skip, a loading skip having separate sets of rollers adapted to travel on the upper and lower rails of the track units, and a rigid connection between the framework of said machine and said track units including bars attached to the framework at one end, and adjusting jacks connecting the other end of the bars with the track units.

In testimony whereof I affix my signature.

EDWARD H. MORTAG.