L. GARDELLA.

METALLIC STACKER.

APPLICATION FILED MAR. 12, 1914.

1,124,722.

Patented Jan. 12, 1915.

2 SHEETS—SHEET 1.

Fig. 3.

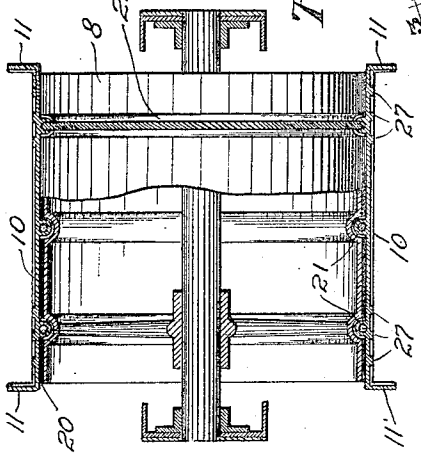


Fig. 1.

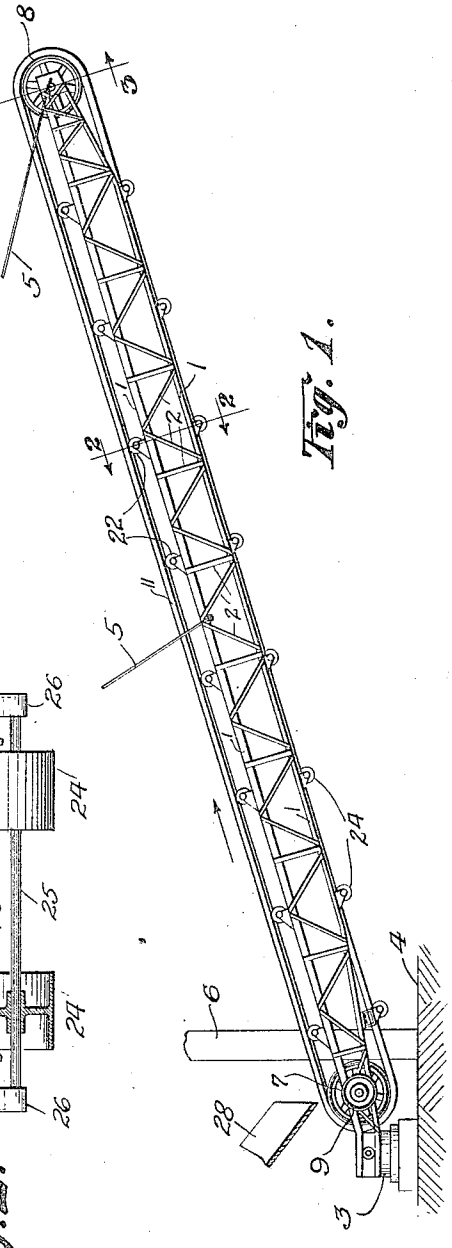
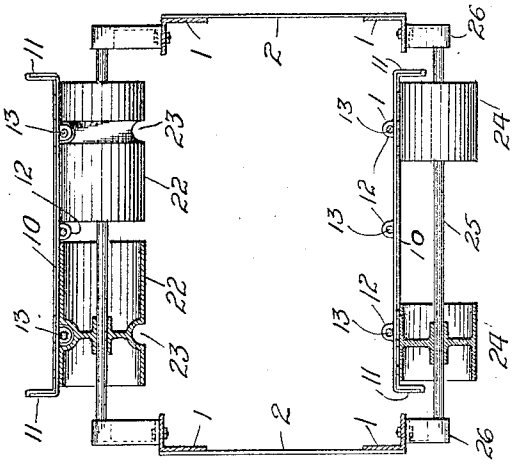


Fig. 2.



WITNESSES:

Elbert R. Bronner

S. Constine.

INVENTOR.

Lawrence Gardella

BY Cicker & Tolton

his ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 5.

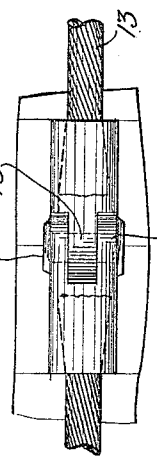


Fig. 6.

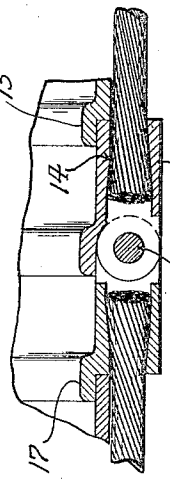
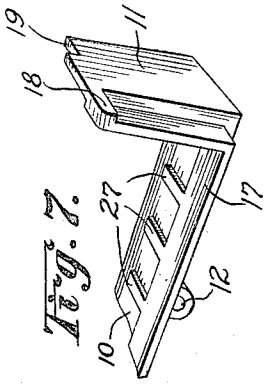


Fig. 7.



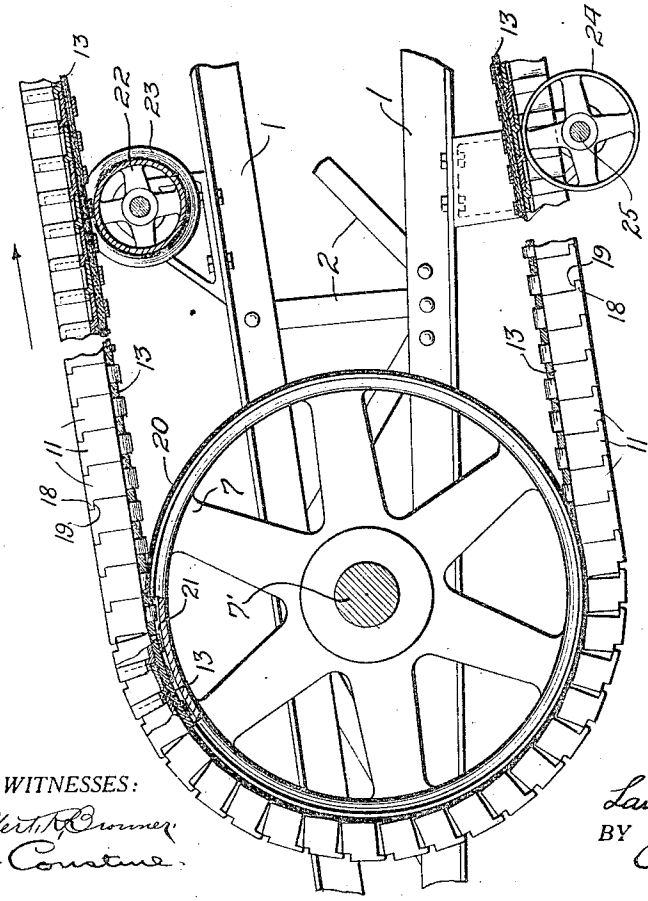


Fig. 4.

WITNESSES:

Albert R. Brunner

S. Constine.

INVENTOR.

Lawrence Gardella

BY

Cocker & Totten

his ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LAWRENCE GARDELLA, OF OROVILLE, CALIFORNIA.

METALLIC STACKER.

1,124,722. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed March 12, 1914. Serial No. 824,198.

To all whom it may concern:

Be it known that I, LAWRENCE GARDELLA, a citizen of the United States, residing at Oroville, in the county of Butte and State of California, have invented certain new and useful Improvements in Metallic Stackers, of which the following is a specification.

The present invention relates to improvements in mechanical stackers or conveyer belts employed for removing the residue material from dredges or the like, and for conveying and stacking the same to a point without the zone of operation of the dredge.

The invention has for its principal objects to provide an endless mechanical stacker in the form of an endless metallic trough adapted for movement, and which is adapted for containing material for its full length, thus providing a greater capacity than stackers of the separate bucket or pan type; to provide a metallic stacker constructed in such a manner as to be practically noiseless in its operation; to provide one in which the parts are readily interchangeable and renewable; and one which is simple in construction, may be readily repaired or adjusted, and which is thoroughly efficient for the purposes designed.

With the above mentioned and other objects in view, the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any advantages of the invention.

To more fully comprehend the invention, reference is directed to the accompanying sheets of drawings, wherein—

Figure 1 is a view in side elevation of my improved stacker, disclosing the support and the drive and supporting wheels for the stacker. Fig. 2 is an enlarged sectional view taken on line 2—2 of Fig. 1, disclosing the transverse shape of the metallic conveyer, the idlers for supporting the same and the manner of mounting the idlers. Fig. 3 is an enlarged sectional view taken on line 3—3 of Fig. 1, disclosing one of the end supporting drums around which the endless conveyer passes and showing the grooves in the drum for receiving the cable which unites the conveyer sections together. Fig. 4 is a side elevation partly in longitudinal section disclosing the shape of the sections of the conveyer and the manner of assembling the same together. Fig. 5 is a bottom plan view of the adjoining sections which receive and retain the opposite ends of the endless cable, disclosing the manner of uniting these sections together. Fig. 6 is a side elevation partly in section of adjoining sections, which receive the opposite ends of the endless cable, disclosing the manner of securing the ends of the cable to the sections. Fig. 7 is a view in perspective of a portion of one of the metallic conveyer belt sections, disclosing more fully the configuration of the same and the transverse riding strips for resting on the return idlers or pulleys.

Referring more particularly to the drawings, wherein like characters of reference designate corresponding parts throughout the several views, the numerals 1 indicate the four parallel spaced longitudinally extending corner members of my supporting structure or boom, adjacent corner members of which are united by the side members 2. The lower end of the supporting structure is supported in any suitable manner on a supporting standard 3 carried preferably on the deck 4 of the dredge and the outer end of said supporting structure is supported in an upwardly inclined position by the members 5, preferably attached at their upper ends in a manner not shown to the upper end of a vertically disposed member 6.

Extending longitudinally of the supporting structure is a flexible metallic substantially trough-shaped endless conveying belt, made up of a plurality of connected sections, and which operates at its ends over the end supporting drums 7 and 8, rotatably mounted respectively at the opposite ends of the supporting structure, and the shaft 7′ of the lower supporting drum 7 carries a band wheel 9, which receives power from any suitable source to rotate the drum to operate the endless conveyer belt.

The endless conveyer belt consists of a plurality of oblong metallic plates or segments 10, bent upwardly at their ends forming side members 11, and said plates carry on their under surface the spaced transversely disposed eyes 12 through which pass the flexible binding cables 13, which unite the plates together to form an endless flexible conveying member. Certain adjacent plates are provided with the eyes 13 having

tapering walls 14 which receive the opposite enlarged ends of the cables, and said eyes carry the tongues 15 which coöperate with each other and through which are transversely passed the pivotal studs 16. Each of said metallic plates 10 and side members 11 are formed at one longitudinal side edge with an outwardly projecting overhanging flange 17 which is slightly raised from the surface of the plate, thus forming a rib thereon, and said flange is adapted to overhang the adjacent edge of the adjoining plate, as in Figs. 4 and 6 of the drawings. The top portions of the side members 11 of the plates are formed with an overhanging portion 18 which is received in a corresponding cut out portion 19 in the opposite face of an adjoining plate. It will be apparent that the plates when assembled on the binding or connecting cables are locked by the flanges 17 and the overhanging portions 18 from over-riding each other or from creeping on the cables, and it will also be apparent that the flanges 17 provide a plurality of transversely extending ribs throughout the length of the conveyer and said ribs provide a means which prevents the material from slipping downwardly thereon, while being conveyed to a place of deposit.

The end supporting drums, particularly the drum 7 are provided with a covering 20 of rubber or other noiseless friction material which assists in operating the conveyer about the drums, and said drums are formed in their peripheries with annular grooves or channels 21 in which are received the eyes 12 carrying the cables 13.

The belt is supported in its path of movement toward the discharge end of the supporting structure by suitable idlers 22 rotatably mounted in journals supported by certain of the side members 1, and said idlers are arranged in pairs in spaced relation on their supporting shafts and are formed in their peripheries with annular grooves or channels 23 for receiving the eyes 12 and cables 13.

The conveyer in its return movement from the drum 8 to the drum 7 is in an inverted or upside-down position and passes longitudinally of the underside of the supporting structure and is supported thereon and passes over the idlers 24 carried by shafts 25 rotatably mounted in bearings 26 carried by the lower pair of corner members 1. A plurality of transversely extending ribs 27 are formed on the upper surface of each plate 10, at a point where the same operate over the idlers 24 and said ribs are flush with the upper surface of the flanges thus providing an even surface for operating over the idlers 24.

The material to be stacked or conveyed is fed onto the endless conveyer at the lower end thereof from the chute 28.

It will be apparent that I have provided a stacker employing a metallic conveying belt which is noiseless in its operation; one which is more durable than the fabric belts now employed; one in which the belt is flexible for its entire length; and one in which the connected segments forming the belt may be removed and replaced when broken or worn and which may be readily adjusted relative to each other when desired.

Having thus described my invention what I claim and desire to protect by Letters Patent is:—

1. A conveyer comprising a plurality of metallic segments bent upwardly at their opposite ends, each of said segments provided at one longitudinal side edge with a flange for overlying the adjacent edge of an adjoining segment, and formed at the ends of said flange with projections for engaging over the tops of said upwardly bent portions, and means for flexibly connecting said segments together.

2. A conveyer comprising a plurality of metallic segments bent upwardly at their opposite ends, means carried by one longitudinal side edge of each segment for overlying the adjacent edge of an adjoining segment, and for overhanging the tops of said upwardly bent ends, means common to all of said segments for flexibly connecting the same together, and means carried by the underside of each segment through which said connecting means pass.

3. A conveyer comprising a plurality of metallic segments bent upwardly at their opposite ends, each of said segments formed at one longitudinal side edge with a flange for overlying the adjacent edge and upwardly bent end portions of an adjoining segment, and means for flexibly connecting said segments together.

4. A conveyer comprising a plurality of metallic segments bent upwardly at their opposite ends, each of said segments formed at one longitudinal side edge with a flange for overlying the adjacent edge of an upwardly bent end portion of an adjoining segment, said segments formed on their underside with suitable transversely disposed eyes, and an endless flexible connection for extending through said eyes for flexibly connecting said segments together.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LAWRENCE GARDELLA.

Witnesses:
WALTER M. SMITH,
GEO. C. TRYON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."