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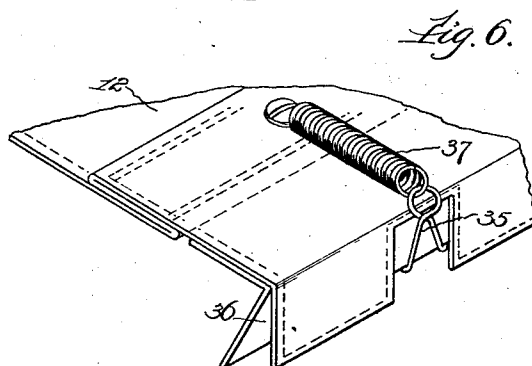
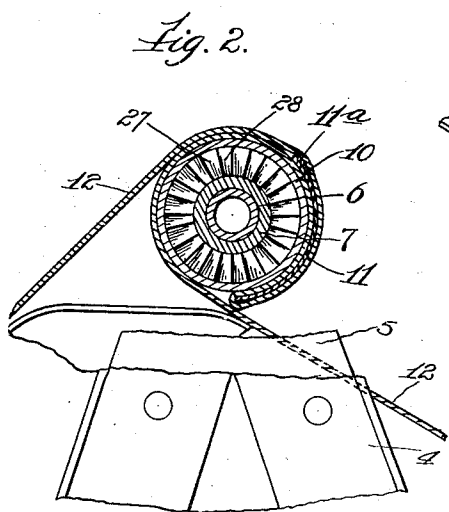
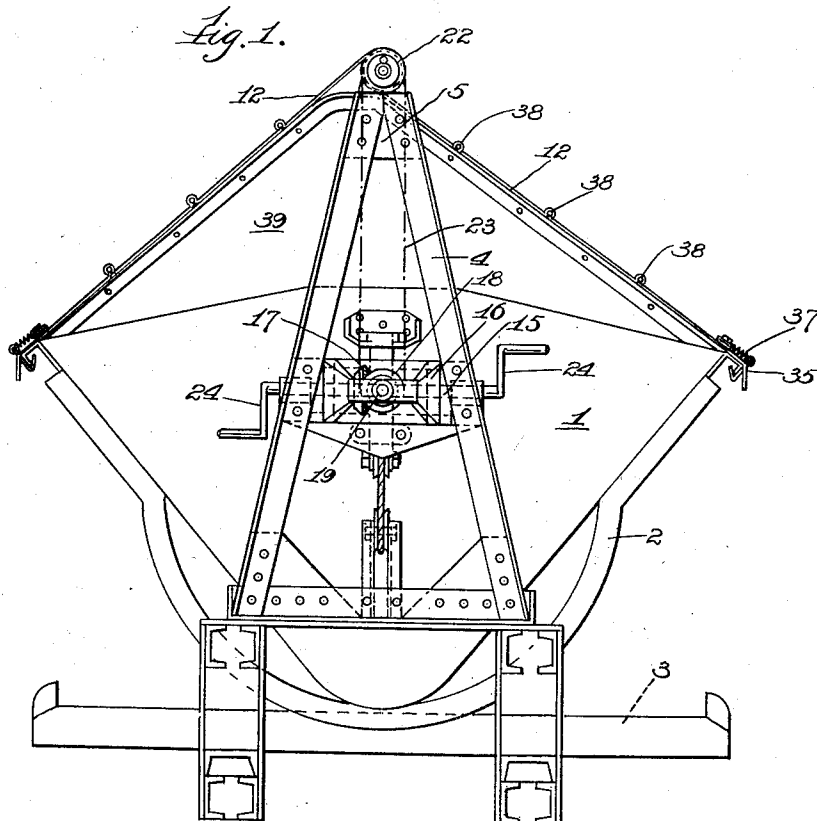
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1,786,048

FLEXIBLE COVER FOR DUMPING BODIES

Filed Jan. 11, 1928

2 Sheets-Sheet 1



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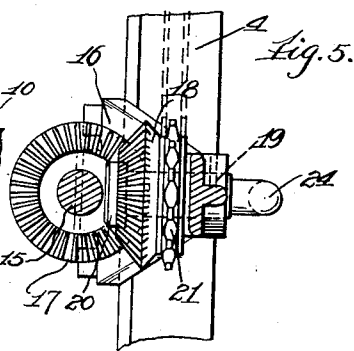
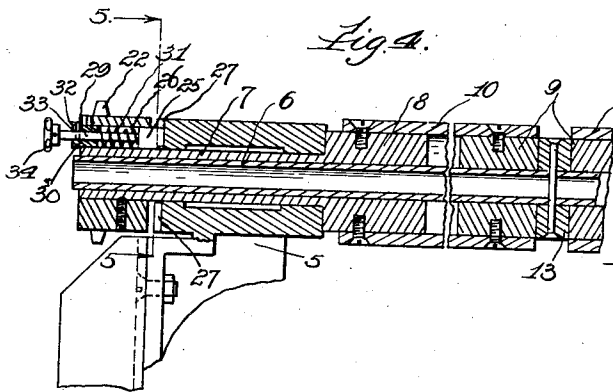
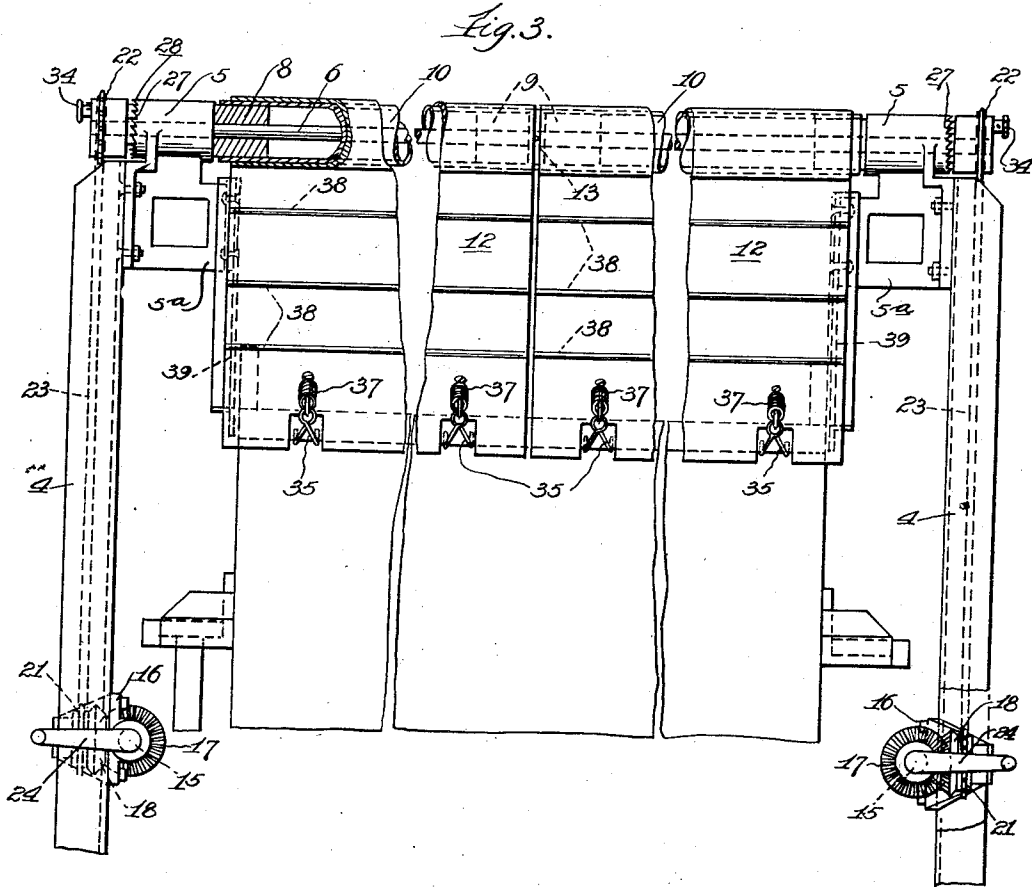
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FLEXIBLE COVER FOR DUMPING BODIES

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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FLEXIBLE COVER FOR DUMPING BODIES

Application filed January 11, 1928. Serial No. 245,844.

This invention relates to dump body vehicles adapted for use in refuse collection and for similar purposes, and it is particularly concerned with means for covering a body of the type which is mounted for tilting or rolling to discharge its load. The object of the invention is to provide a simplified compact, light weight cover construction, which may be positioned to afford free dumping action of the body. Another object is to provide an improved construction which shall be economical to manufacture, and durable and simple in operation. It consists in certain features and elements of construction, as herein shown and described, and as indicated by the claims.

In the drawings:

Figure 1 is a diagrammatic end view of a vehicle body provided with covers embodying the present invention.

Figure 2 is an enlarged fragmentary end view with parts in section showing the cover portions in extended position.

Figure 3 is an enlarged fragmentary side elevation, showing parts of the vehicle body diagrammatically.

Figure 4 is an enlarged vertical longitudinal section through the roller and roller operating mechanism.

Figure 5 is an enlarged end view of the operating gearing on the end frame for rotating the roller.

Figure 6 is an enlarged fragmentary detail of a fastening member on the cover for securing the same to the body.

As illustrated in the drawings, the load-carrying body indicated at 1, is of the upward open type, provided with rockers, 2, which are mounted to roll laterally on transverse cross rails, 3, of the vehicle frame to permit rolling of the body to either side for discharging its load. It will be understood that the body, 1, is designed with its center of gravity located so that the body may be rolled to dumping position or returned to upright position with small application of force and may be easily manipulated by a single operator. The body may be made fast to the vehicle frame by any of the usual locking mechanisms which form no part of the present in-

vention. Vehicles of this type are frequently employed for transporting refuse such as ashes, garbage and the like, and it is desirable to provide a cover to enclose the load while in transit, preferably this cover should be of flexible material to conform somewhat to the irregularities of the load. It is further desirable that the cover be so mounted as to permit free and unobstructed dumping action of the body.

In the construction shown in Figures 1 to 6, the cover is mounted independently of the body so as not to alter its center of gravity in any respect. A pair of upright A-frames, 4, of angle construction are mounted on the vehicle main frame adjacent the ends of the body, and the upper ends of said A-frames are provided with bearing brackets, 5, for supporting a longitudinally extending hollow shaft, 6, through sleeve extensions, 7, of plugs, 8, which abut against the ends of said bearings. Said plugs are loosely mounted on opposite ends of the shaft, 6, which extends centrally above the load-carrying space of the body. A vehicle body of relatively short length could be enclosed by a single section of cover, but as shown herein the body is provided with two sections of cover, which, for convenience may be independently operated to expose a desired portion of the body. The cover sections are of light weight flexible material such as rubberized sheeting or canvas or may even be made of light weight metal sections; each cover section is attached at its transverse median line to the roller, 10, by means of a retaining plate, 11, which divides the cover section into two oppositely extending portions, 12, of sufficient length to be extended to the opposite flanged edges of the body, 1. The rollers are preferably hollow with their outer ends fastened on the plugs, 8, and inner ends on plugs, 9, for free turning on the shaft, 6, and held in spaced relation thereon by a collar, 13, pinned on said shaft between said rollers. The retaining plates, 11, extend the length of and approximately 120° around the periphery of said rollers and have their edges doubled back at 11^a to provide smoothly rounded edges engaging the cover portions, 12, as shown in Figure 2. It

will now be clear that by rotating a roller one of the cover portions, 12, will be wound onto the roller while the other cover portion is wound over the retaining plate, 11. This arrangement results in the interwinding of these cover portions on the roller at tangents thereto on opposite sides of the roller. It is preferable that the cover portions be of sufficient length, so that in extended position they will have at least a single wrap around the roller as shown in Figure 2.

Each of the rollers is provided with independent operating mechanism arranged on the A-frames, 4. Each of these mechanisms includes a transverse operating shaft, 15, journaled in a bracket, 16, secured to the A-frame, said shaft having a bevel gear, 17, thereon, meshed with a bevel gear, 18, mounted on a stud, 19, also journaled in bracket, 16, at right angles to shaft, 15. The stub is provided with a head, 20, abutting the inner end of the hub of gear, 18, while the opposite end of the stub is pinned in said bracket. A sprocket, 21, is formed integral with the gear, 18, and is connected by a drive chain, 23, to a sprocket, 22, on the end of sleeve, 7, outside of bearing, 5. Both ends of shaft, 15, are provided with operating handles, 24, for driving this mechanism through the sprockets for rotating the roller, 10, to wind up the cover portions, 12.

The winding mechanism for the roller is preferably arranged so that the roller may be rotated only in cover winding direction and also to maintain the cover portions fairly taut when extended over the body. To this end, a pawl, 25, slidably carried in a bore, 26, in the hub of sprocket, 22, is positioned in yielding contact with the ratchet teeth, 27, of a crown face ratchet, 28, formed on the outer end of bearing bracket, 5. Thus it will be clear that the sprocket, 22, and its winch mechanism may be operated freely for rotation of the roller in cover winding direction, which permits the pawl, 25, to slide over the teeth, 27, of the stationary ratchet, 28, while the tendency to rotate the roller in opposite direction is checked by the pawl engaging the face of the teeth of said ratchet. This ratchet mechanism is disengageable at will to permit the cover portions to be unwound from the roller in extended position for securement to the edges of the body. The bore, 26, in the hub of the sprocket, 22, is square as is the pawl, 25, to maintain said pawl in teeth engaging position with the ratchet, 28. The pawl is connected to a stem, 29, slidable in a plug, 30, secured in the outer end of the bore, 26, of said sprocket. A coil spring, 31, is mounted on said stem intermediate the pawl and plug for forcing the latter in yielding contact with the ratchet teeth. Said stem is provided with a transverse pin, 32, slidable in a slot, 33, in the plug, 30, and with a handle, 24, on the outer end of the stem for

pulling said stem longitudinally, until said pin, 32, is out of its slot so that it may be turned to abut against the end of the plug for holding the pawl away from the ratchet against the reaction of the spring, 31. Thus the roller may be freed to permit the cover portions to be unwound, and after the covers are secured to the body the ratchet mechanism may again be set in operative relation and a partial turn of the handle, 24, will take up any slack in the cover portions.

The cover portions, 12, are provided with fastening members, 35, for engaging the flanged edges, 36, of the body, 1, and these fastening members each have a coil spring, 37, connecting said members with the cover portions, so that said cover portions will at all times be maintained at tension when in body covering position, as shown in Figure 6. To partially relieve the sag of the cover portions when extended, a suitable number of longitudinally extending reinforcing rods, 38, may be provided.

The upper end plate, 39, of the body, 1, may be made either a part of the body or fastened to the A-frame, and for purpose of illustration this end plate is shown mounted adjacent the end of the body on an extension, 5^a, of the bearing bracket, 5. This plate preferably has its upper edges aligned in the plane at which the respective cover portions extend tangentially from the roller so that this upper edge of the plate, 39, serves to guide and partially support said cover portions when in extended position.

I claim:

1. A cover for a vehicle body comprising a shaft mounted to extend longitudinally over the load-carrying space of the body, brackets in which said shaft is supported, a roller loosely mounted on the shaft and a flexible cover secured to the roller extensible over the load-carrying space, together with means for rotating the roller to wind said cover thereon comprising a sleeve loose on the shaft and connected to said roller, said sleeve extending through one of the brackets and journaled therein, and gearing connected for driving the sleeve to rotate the roller.

2. In combination with the structure set forth in claim 1, a second roller similar to the first and mounted on the shaft longitudinally adjacent said first roller, with a sleeve journaled in the other bracket, a second flexible cover secured to said second roller and separate driving means for the sleeve thereof.

3. A cover for a vehicle body comprising a shaft extending longitudinally over the load-carrying space of the body, brackets in which said shaft is supported, a roller loosely mounted on the shaft, a flexible cover secured to the roller and extensible over said load-carrying space, and detent means carried with the roller and yieldingly engageable with said bearing bracket adapted to permit

rotation of the roller only in cover-winding direction, but disengageable at will from said bracket to free the roller for permitting the cover to be unwound.

- 5 4. In the structure set forth in claim 1, a detent surface on the bracket at the end remote from the roller, and a yieldingly detent device carried by the sleeve in position to co-operate with said surface, adapted to permit
10 rotation of the roller only in cover-winding direction, but disengageable at will to permit winding the cover.

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