July 9, 1929. C. A. ADAMS 1,720,255

ROLLER FOR GRAVITY CARRIERS

Filed Feb. 23, 1924

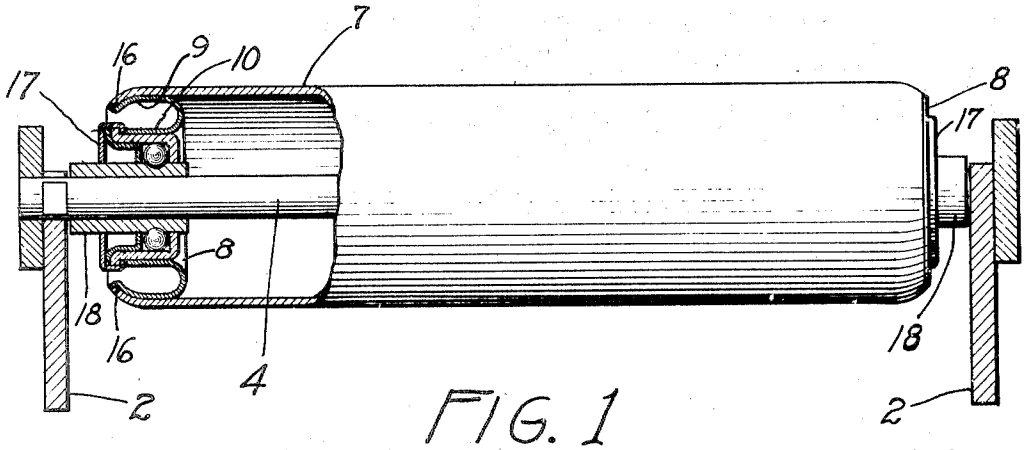


FIG. 1

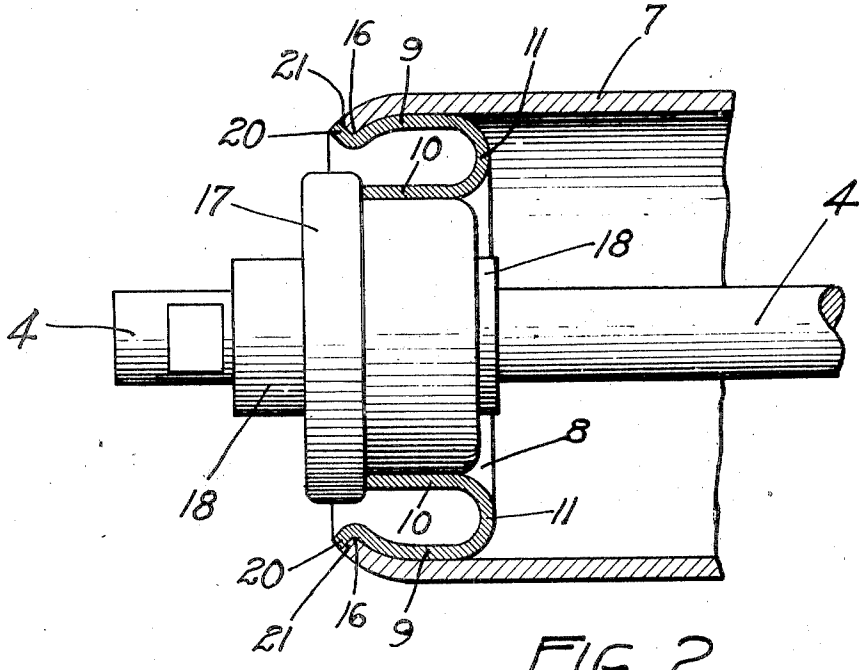


FIG. 2

INVENTOR
CHARLES A. ADAMS
By Paul, Paul & Moore
ATTORNEYS

Patented July 9, 1929. 1,720,255

UNITED STATES PATENT OFFICE.

CHARLES A. ADAMS, OF ELLWOOD CITY, PENNSYLVANIA, ASSIGNOR TO MATHEWS GRAVITY CARRIER COMPANY, OF ELLWOOD CITY, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ROLLER FOR GRAVITY CARRIERS.

Application filed February 23, 1924. Serial No. 694,732.

This invention relates to improvements in rollers, or conveyor members, of gravity carriers and is an improvement particularly upon the rollers illustrated and described in the patents to Herman J. Buck, No. 1,238,880, issued September 4, 1917, reissued January 20, 1920, No. 14,792, and No. 1,445,821, issued February 20, 1923.

The object of the present invention is to provide means to secure in position in each end of the roller, the head in which the anti-friction cage of the roller is mounted.

The invention consists in the construction and combinations hereinafter described and particularly pointed out in the claims.

In the accompanying drawing, forming part of this specification, Fig. 1 is an elevation and partial section of a gravity carrier roller, embodying my invention, the side rails of the carrier being shown in section and the supporting shaft, or axle, in elevation.

Fig. 2 is a detail.

In the drawing 2, 2 represent the side rails of the carrier in which the carrier shaft, or axle 4, is mounted. 7 represents a conveyor or carrier roller, preferably made of light steel tubing and open at each end. Arranged on the shaft 4, and capable of rotary and longitudinal movement thereon, is a sleeve, 18, on which is mounted a ball carrier cage, 17, preferably of substantially the same construction that is shown in the Buck Patent No. 1,445,821, hereinbefore referred to. A head, 8, is arranged in each end of the roller 7. This head is preferably in the form of an annulus, having the circular webs 9 and 10 united by a transverse web, 11. The outer surface of the web 9 is provided with a circumferential depression, or recess, 16. This web is preferably coincident with the inner surface of the roller 7, so that said head fits snugly in the roller with the recess 16 arranged opposite the extreme end of the roller, which is depressed into the circumferential recess 16. The ball-cage 17, when the bearing is assembled, is slidably seated within the web 10, the flange of said cage resting against the edge of the web. With this construction the head is reliably and permanently secured in position in the end of the roller so that it is impossible for it to become loosened therefrom. In the ordinary construction of roller carriers great difficulty is experienced in maintaining the heads in the rollers, as these heads work loose and move ahead on the shaft into the interior of the roller. In my construction I form the circumferential recess 16 with an outwardly flaring wall 20, against which the edge 21 of the metal, forming the roller 7, abuts when the parts are assembled, as shown in the drawing. This makes it absolutely impossible for the head, under any circumstances, to work ahead on the shaft and get farther into the roller.

I have shown in detail only the construction at one end of the roller. It will be understood, however, that the same construction is preferably used on both ends of the roller.

I claim as my invention:

1. The combination of a tubular gravity carrier roller, an anti-friction cage arranged in the end of the roller, a head generally U-shaped in cross-section between said cage and the end of the roller, and supporting said roller, the head comprising inner and outer circular webs connected by a transverse portion, said head opening out from the end of the roller and with its outer webbed portion bent inwardly then outwardly forming an annular recess outwardly open in its outer surface, the diameter of which is less than the diameter of the roller elsewhere, the end of the roller fitting over the inwardly bent surface of the head and having the end edge of the metal of the roller seated against the wall of said recess.

2. The combination with a tubular gravity carrier roller, of an anti-friction cage arranged in the end of the roller, a head between said cage and roller and supporting said roller, said head including an annular outer web, the outer surface of which extends inwardly towards the cage and thence outwardly from the cage to form a recess in the outer surface of said web, the end of the roller extending inwardly and having its inwardly turned end fitting over the outer surface of said head with the extreme end of the roller seated against the wall of said recess.

CHARLES A. ADAMS.