

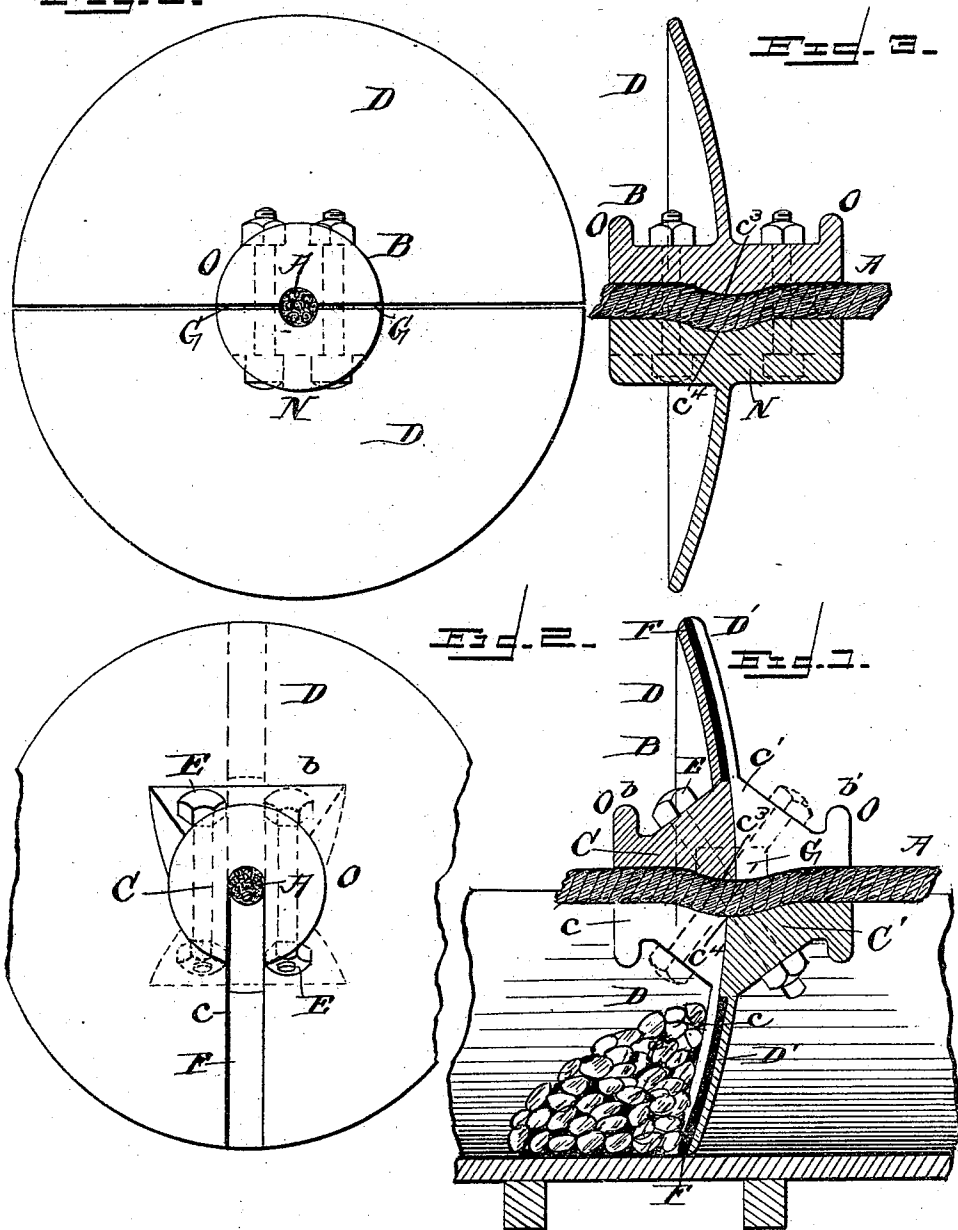
(No Model.)

3 Sheets—Sheet 1.

H. H. BLISS.
CABLE CARRIER.

No. 516,698.

Patented Mar. 20, 1894.



H. H. BLISS.
CABLE CARRIER.

No. 516,698.

Patented Mar. 20, 1894.

Fig. 8.

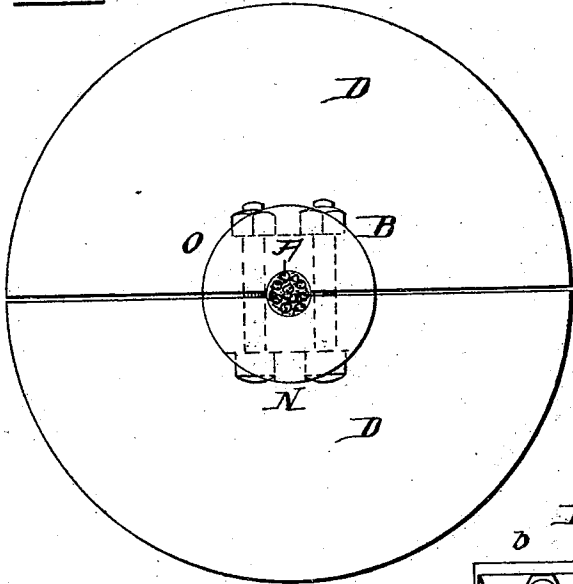


Fig. 5.

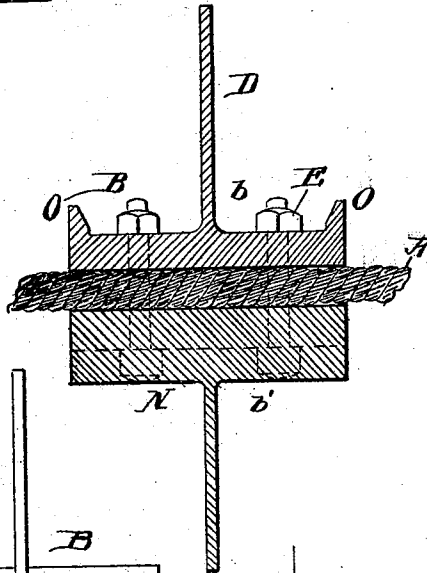
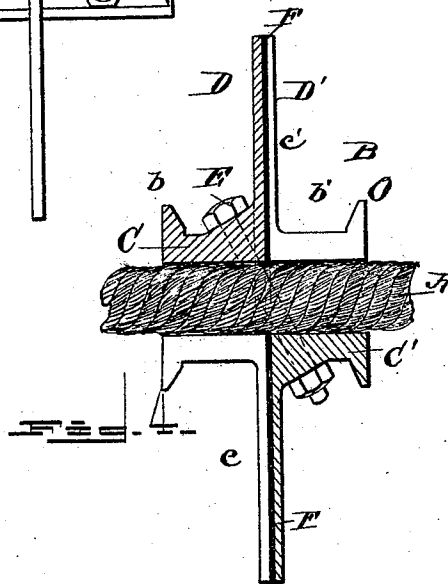
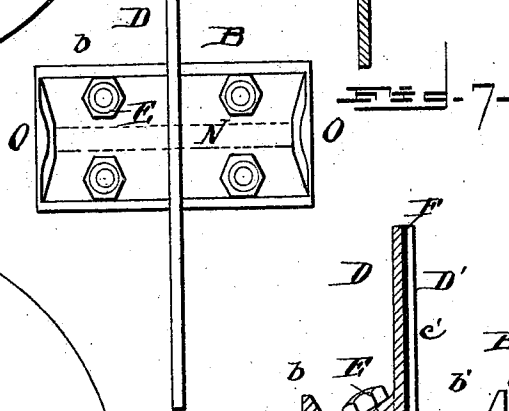
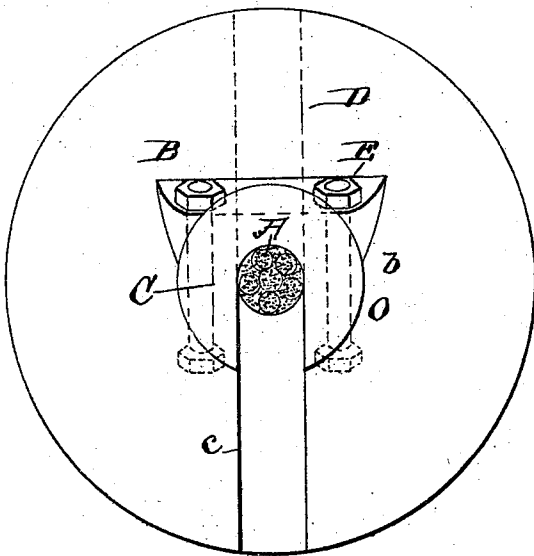


Fig. 6.



Witnesses
Chas. H. LaPorte,
Heath & Shotwell.

Inventor
Henry H. Bliss

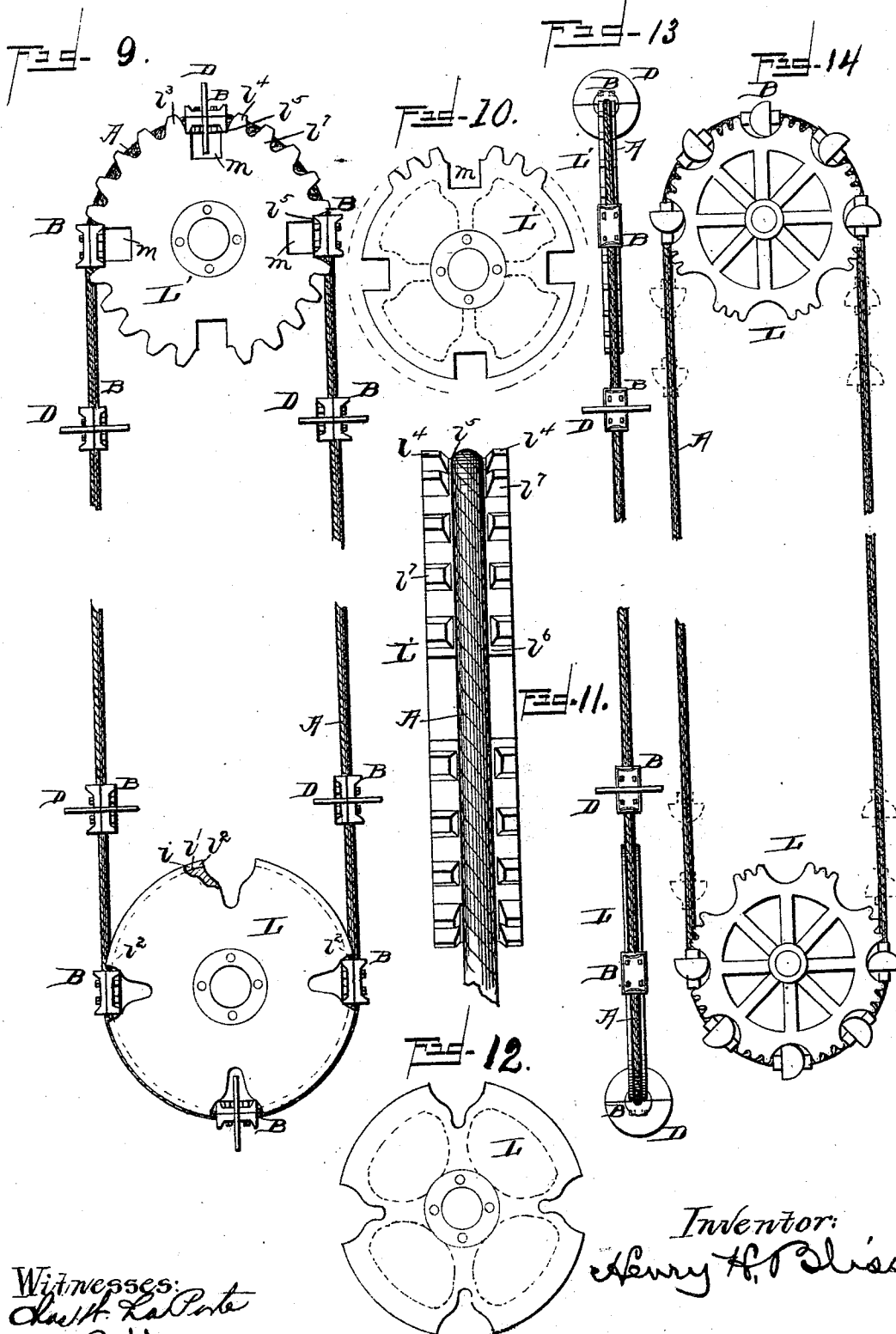
(No Model.)

3 Sheets—Sheet 3.

H. H. BLISS.
CABLE CARRIER.

No. 516,698.

Patented Mar. 20, 1894.



Witnesses:
Chas H. LaPorte
M B May

Inventor:
Henry H. Bliss

UNITED STATES PATENT OFFICE.

HENRY H. BLISS, OF WASHINGTON, DISTRICT OF COLUMBIA.

CABLE-CARRIER.

SPECIFICATION forming part of Letters Patent No. 516,698, dated March 20, 1894.

Application filed March 16, 1893. Serial No. 466,340. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. BLISS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Cable-Carriers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a section of a portion of a cable conveyer illustrating one manner of carrying out my invention. Fig. 2 shows the attachment in elevation. Fig. 3 is a section of a modified form. Fig. 3^a is a face view of the parts shown in Fig. 3. Fig. 4 is a section, and Fig. 5 is a face view of another modification. Fig. 6 is a section. Fig. 7 is a top view, and Fig. 8 an elevation of another slightly differing device. Figs. 9 to 14 illustrate some of the ways of supporting the conveyer wheel, and driving it.

In the drawings, A represents a wire cable which may be of any dimensions suitable to attain the purpose in hand.

The attachment as a whole is indicated by B. As shown in Fig. 1, it is composed of two sections *b b'*. These sections are so shaped that they can not only be readily placed upon and secured to the cable in close proximity to each other, but also can have placed between them material which shall operate as a damper to deaden or prevent the noise which is incident to conveyer scrapers or carriers as now commonly used.

Each section has a hub part as at C C' through which there is a slot, as at *c c'*. The hubs are cast with disks D and D' each having a slot coinciding with one of the aforesaid slots *c c'*. The slots *c c'* terminate in semi-circular ends adapted to fit more or less closely around the surface of the rope or cable. At *c² c³* the walls are formed with projections which extend inward toward the axis of the cable for a purpose to be described.

E E indicate bolts, which are situated at an inclination not only to the axis of the cable but also to the principal transverse plane of the attachment. The metal of the hub parts C C' is shaped substantially as shown, so that the nuts shall have surfaces perpendicular to the axis of the bolt to abut against. The hub parts C, C' serve as clamps which engage di-

rectly with the cable and the bolts can be used to force these clamps positively against it.

I do not depend upon a filling of Babbitt or similar metal, but form the attachment sections so that they shall be capable of slipping on each other transversely of the rope and this enables me to get a powerful grip, as will be seen on examining Figs. 1 and 4, there being nothing to resist the action of the bolts except the cable itself. In this respect there is a marked difference over those devices having the attachments made with stops which prevent the sections from moving relatively to each other, and joined by bolts lying parallel to the cable. In such cases use must be made of soft filling metal of some sort, to prevent the attachment from slipping along the rope. When the parts are in place, and the bolts are drawn up tightly, not only will the two sections of the attachment or flight be drawn together, but will also be firmly clamped to the cable. At F, a lining material of a character suitable for the deadening of sound vibrations is introduced between the two disks D D' of the attachment, it being made of paper, cloth, rubber, leather or other suitable material.

As is well known, when conveyers are at work in conjunction with metallic troughs, for transporting coal and like material over comparatively long distances, the scrapers or flights as they move along are vibrated in such a way as to produce exceedingly disagreeable noises. I overcome this by employing a damper of the character described. It will also be seen that the disks or plates D D' in the construction shown in Fig. 1 are made concavo-convex or "dished." As a result, they act much more advantageously in transporting material horizontally, for their tendency is to get beneath more or less of the material, and the latter by its weight and pressure holds the blade or attachment disk down, not only preventing its vibrating but also preventing it from jumping up over blocks of coal or other masses of material, which are matters constantly occurring when using flat or plane disks.

In order to relieve the bolts from strain and lock the parts of the hub more firmly together, I form one or more grooves or recesses in one

part of the attachment, and one or more projections in the other. These prevent twisting or turning. The projections are indicated by G, and the corresponding recesses by g.

5 In Fig. 3 a modification of the above described device is shown. In this case the attachment as a whole is divided upon one of the axial planes of the cable into two substantially similar halves. There is only one disk
10 D, one half of it being secured to one half of the hub, and the other half to the other. The bolts lie in transverse planes perpendicular to the axis of the cable. There is a depression at c^3 in one half of the hub, and a projection at c^4 in the other half which act in
15 the way above described to give the cable something of a bend, and increase the grip of the attachment upon it. However I do not broadly claim the shaping or constructing of
20 the parts so that one section of the attachment shall have a recess, and the other section shall have a corresponding projection to force the cable into the recess when the bolts are tightened.

25 In Figs. 4 and 5, a construction is shown substantially similar to that shown in Fig. 1, except that the disks D and D' are flat or in one continuous plane; and in Figs. 6, 7 and 8, a construction is shown more or less similar
30 to that in Fig. 3, the main difference being that a flat disk instead of a dished one is used.

It will be understood that wheels of any suitable sort can be employed, many being now well known for supporting and driving
35 both chains and ropes analogous to those herein.

The wheel at L, Fig. 9 has a peripheral groove l , for the rope, and the flanges l' of this
40 grooves are notched at l^2 , to receive the sprockets on the cable. This wheel is similar to that in the patent to Morris, No. 16,603, and that to Imhorst, No. 223,623, but there can be variations, so long as there is provided a combination with the rope or cable having a series
45 of transversely arranged sprocket-like or engaging devices which project laterally of said rope, of wheels each of which has a peripheral groove for the accommodation of said rope and the flanges of which groove are
50 notched or toothed to effect a positive engagement.

At L' one of the possible modifications is shown, the wheel here having some of the spaces between the pairs or sets of sprockets
55 or teeth (as at l^3 , l^4) gapped or cut out (as at m) and having the rest of such spaces (as from l^5 to l^6) ungrooved circumferentially of the wheel to seat the sprocketed rope which runs on the wheel. That is to say the rope
60 rests upon a flat surface extending from l^5 to l^6 . If desired projections, such as at l^7 can be provided to assist in holding the rope in place, but as the bearing surface is flat, and as there are numerous wide openings at the side of the
65 rope any grit or foreign material that may tend to accumulate, can readily escape. Such wheels, broadly considered, are well known,

being shown, for instance in the patent to Hudson, No. 241,984; but said Fig. 9 illustrates forcibly the fact that a cable of this
70 character can be used interchangeably, and can be applied to many of the wheels and frameworks already erected and in use.

The bodies of the wheels can be solid, as is shown in full lines in Fig. 9, or to save metal
75 and lighten them, they can be formed with apertures, as is illustrated by the dotted lines in Figs. 10 and 12, so as to provide a hub, a rim, and spokes, in the way well known in shops.
80

A bucket conveyer formed of a cable and buckets secured thereto (as is indicated in Fig. 14) is adapted for use upon wheels such as are shown in the patent to Schupp, No. 294,815, which is gapped to receive the buckets, and
85 is formed with a rim, a hub, and spokes, each of the latter lying inside of the gapped part of a wheel.

By examining the drawings it will be seen that each of the sprocket attachments has at
90 one, or each, end (preferably the latter) a circular or disk like flange as shown at O. One half being formed upon one part of the hub, and the other part being formed upon the opposite portion of the hub. This is particularly
95 of advantage when used with the concavo-convex flights or scrapers, as it insures that no matter how much the cable may twist or the attachment may turn as it approaches the wheels it will engage with the edges of
100 the notches or teeth in the same way which ever side is presented. And to prevent these flanged parts O, O, from being broken from pressure when against the wheel, I strengthen
105 and brace them by a web or enlargement of the metal, N, which is integral with them, and which is also so arranged as to serve as a lock for the clamping bolts, as will be readily seen by examining Figs. 3, 6 and 7.

I am aware that rubber and leather have
110 been combined with the balls on metallic attachments on pump chains, such rubber and leather being intended and arranged so as to be in contact with the pump tube while moving through the latter, and serving as a pack-
115 ing to prevent the water from escaping. In the present case the damper or device for deadening the noise is entirely different both in purpose and arrangement. The paper must not project beyond the metallic part for
120 it would be immediately worn and cut. The metallic parts take the wear and abrasion. In this respect the washers and packings of chain pumps are radically different as they would serve no functions unless they pro-
125 jected beyond the metallic parts and moved in contact with the pump tube.

What I claim is—

1. The combination with a cable, of a metallic scraper or flight, devices in permanent
130 contact with the scraper for deadening noise vibrations, and means for securing said devices against the scraper, the metallic part extending out from the cable to or beyond the

edge of the noise deadening device, whereby the latter is relieved from wear, substantially as described.

2. The combination with the cable, the 5 trough, and the metallic scraper adapted to rest on and in contact with the trough, of the device for deadening the vibrations of the scraper, and means for securing said device 10 as set forth.

3. The combination with a sprocket attachment for a cable or rope of a clamping bolt for securing it thereto, said bolt being situated on lines inclined to planes transverse to 15 the cable, substantially as set forth.

4. A scraper attachment or flight for a cable, it being formed in two overlapping sections, each section being provided with a slot or cable 20 passage extending from the periphery inward toward the center, and provided with clamping devices bearing directly against the cable, and bolts for drawing said clamping devices tightly against the cable, substantially as set forth.

5. A scraper or flight for a cable formed in 25 two overlapping sections each having a radially extending plate and a hub with a cable passage extending from the periphery to the axis said sections being adapted to move rel-

atively to each other across the longitudinal 30 lines of the cable, and bolts situated as described to draw said sections against the cable, as set forth.

6. A scraper attachment or flight for a cable, it being formed in two sections, each section 35 having a plate like portion extending out from the cable, and a hub surrounding the cable, the two hub parts extending longitudinally in opposite directions, and each section having a slot extending inward from the periphery, 40 and clamping devices for securing said sections together, substantially as set forth.

7. The herein described attachment for a cable it being adapted to be secured to said cable by bolts, and having a hub formed in 45 two separable sections and terminating at each end in a disk like projection O, O and having an enlargement or web N of metal formed integral with the parts O, O of one of the hub sections, and adjacent to the bolts, 50 substantially as set forth.

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

HENRY H. BLISS.

Witnesses:

MARCUS B. MAY,
N. CURTIS LAMMOND.