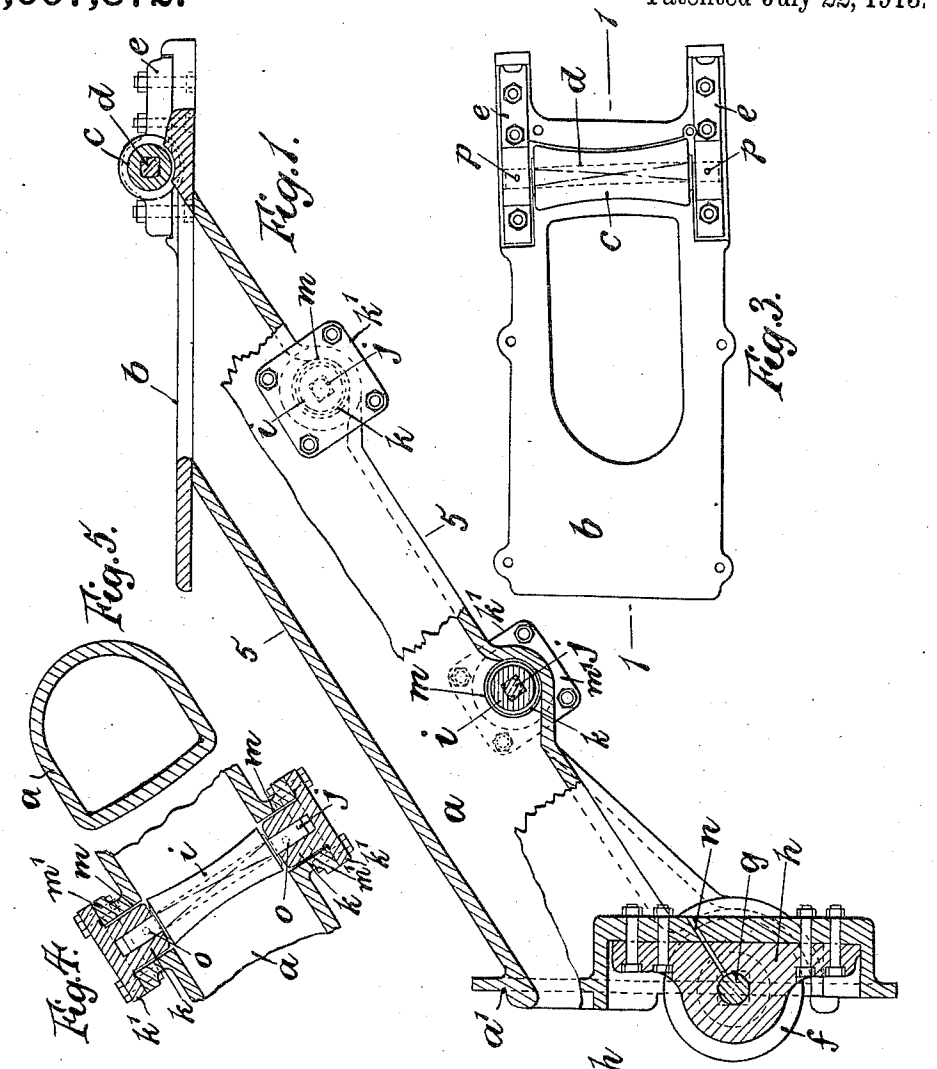
A. HAMILTON, R. HAMILTON & A. HAMILTON, JR.

SHIP'S HAWSE PIPE.

APPLICATION FILED FEB. 1, 1913.

1,067,872. Patented July 22, 1913.



WITNESSES:
John C. Sanders
H. B. Cottrell

INVENTORS:
Albert Hamilton
Richard Hamilton
Albert Hamilton, Jr.
BY Wm. Wallace White ATTY.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALBERT HAMILTON, RICHARD HAMILTON, AND ALBERT HAMILTON, JR., OF CARDIFF, WALES.

SHIP'S HAWSE-PIPE.

1,067,872. Specification of Letters Patent. Patented July 22, 1913.

Application filed February 1, 1913. Serial No. 745,568.

To all whom it may concern:

Be it known that we, ALBERT HAMILTON, RICHARD HAMILTON, and ALBERT HAMILTON, Jr., subjects of the King of Great Britain, residing at The Vulcan Foundry, East Moors, Cardiff, in the county of Glamorgan, Wales, have invented new and useful Improvements in Ships' Hawse-Pipes, of which the following is a specification.

This invention relates to ships' hawse-pipes, and its object is to reduce the mutual wear of the hawse-pipe and the anchor cable which is led therethrough.

The wear to which an ordinary hawse-pipe is subjected in a vessel of average size is remarkable. In the course of a very short period, the impact of the alternate upstanding links of the cable against the terminal edges of the hawse-pipe causes deep grooves to be worn therein, the wear being most pronounced at the edge of the junction of the hawse-pipe and the deck-flange. On hauling in a cable through a hawse-pipe in which a groove has become worn, the alternate upstanding links bed themselves in the groove and can pass comparatively freely, but the links intermediate to the upstanding links, abut against the edges on each side of the grooves formed in the outer lip of the hawse-pipe and in the deck-flange, which edges thereby tend to arrest the cable and necessitate an undue expenditure of energy in the winch or cable lifter. By reason of the eventually increased resistance to hauling an anchor cable along a hawse-pipe and deck-flange when these have become grooved by wear, winches or cable-lifters of a power capacity in excess of the initial requirements for lifting the cable, have to be installed on board ship. A more obvious disadvantage of a hawse-pipe liable to wear, is the frequency of renewal with its accompanying inconvenience and expense.

According to the present invention, wear of a hawse-pipe is prevented by providing one or more transverse anti-friction rollers at the situations in the hawse-pipe most exposed to wear. These rollers are mounted at the junction of the hawse-pipe and the deck flange and at the lower portion of the outer lip or mouth of the hawse-pipe. Moreover, the inside of the hawse-pipe may be provided at intervals with transverse rollers on the side against which the cable bears when being hauled in.

A representative example of a hawse-pipe according to the present invention, is illustrated on the accompanying drawing, in which:—

Figure 1 is a longitudinal section, partly in side elevation taken along the lines 1—1 of Figs. 2 and 3. Fig. 2 is a front elevation of the outer-mouth of the hawse-pipe, Fig. 3 is a plan of the deck-flange, Fig. 4 a sectional plan of an intermediate portion of the length of the pipe, and Fig. 5 is a transverse section taken along the line 5—5 of Fig. 1.

a is the hawse-pipe which extends from the side of the bow of the vessel, where it terminates in a flanged mouth a^1, upward in an inclined direction through the forecastle to the forecastle deck, where a deck-flange *b* is fitted.

A roller *c* is mounted on a spindle *d*, journaled in bearings *e*, bolted to the deck-flange *b*, so that the roller is situated at the junction of the hawse-pipe *a* and deck-flange *b*, the roller being approximately transverse to both and to the direction of the cable.

At the lower lip of the mouth a^1 of the hawse-pipe *a*, a transverse roller *f* is mounted on a spindle *g*, journaled in bearings *h* bolted to the flanged mouth a^1.

At a plurality of positions in the length of the hawse-pipe *a*, transverse rollers *i* are mounted on spindles *j*, journaled in flanged bosses *k*, protruding inwardly through lateral holes *m* in the lower portion of the length of the pipe. The rollers *i* do not exceed in diameter the internal diameter of the holes *m* whereby the rollers *i* and their spindles *j* can be placed in position and renewed from the interior of the forecastle, through which the hawse-pipe *a* extends. The bearing surfaces in the flanged bosses *k* do not extend completely to the outer ends thereof, so that on the bosses *k* being bolted by their flanges k^1 to flanges m^1 on the pipe *a*, surrounding the holes *m*, with packing interposed, water entering the hawse-pipe cannot leak into the forecastle.

The spindles *g* and *j* can be lubricated from the interior of the forecastle through

oil channels *n* and *o* respectively, extending from the forecastle to the respective bearing surfaces. The spindle *d* of the deck roller *c* can be lubricated through channels *p* in the bearings *e*.

The deck roller *c* may be recessed or provided with teeth to engage the cable in the manner of a sprocket wheel, whereby by means of a clasp-nut embracing the spindle *d* or by means of a detent, the roller *c* can serve as a cable stopper.

The several rollers and their spindles may be mounted on ball or other friction-reducing bearings, and the rollers may be of harder metal than the hawse-pipe.

The hawse-pipe, instead of being integral throughout its length, may be built up of several longitudinal sections. The hawse pipe may be channeled throughout its length to receive the cable and the rollers may be recessed also to fit the cable.

We claim:

1. In a ship's hawse-pipe, flanged bosses protruding inwardly through flanged lateral holes within the length of said hawse-pipe, a transverse spindle journaled in said flanged bosses and a transverse roller mounted on said spindle.

2. In a ship's hawse-pipe, flanged bosses protruding inwardly through flanged lateral holes at intervals within the length of said hawse-pipe, transverse spindles journaled in said flanged bosses and transverse rollers mounted on said spindles.

3. In a ship's hawse-pipe, a deck-flange, a flanged mouth, a transverse roller mounted at the junction of said hawse-pipe and said deck-flange, a transverse roller mounted at the lower portion of said mouth, flanged bosses protruding inwardly through flanged lateral holes within the length of said hawse-pipe, a transverse spindle journaled in said flanged bosses and a transverse roller mounted on said spindle.

4. In a ship's hawse-pipe, a deck-flange, a flanged mouth, a transverse roller mounted at the junction of said hawse-pipe and said deck-flange, a transverse roller mounted at the lower portion of said mouth, flanged bosses protruding inwardly through flanged lateral holes at intervals within the length of said hawse-pipe, transverse spindles journaled in said flanged bosses and transverse rollers mounted on said spindles.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALBERT HAMILTON.
RICHARD HAMILTON.
ALBERT HAMILTON, JNR.

Witnesses:
ROBERT ARTHUR SMITH,
HERBERT D. JAMESON.

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