To all whom it may concern:

Be it known that I, GILBERT Rimmer, a subject of the King of England, residing at Wigan, in the county of Lancaster, England, have invented certain new and useful Improvements in Coal-Cutting Machines, of which the following is a specification.

A coal-cutting machine of well-known type is provided with a haulage-chain, the latter being anchored at one end so that the machine can pull upon the anchored chain by means of a rotatable sprocket-wheel. The haulage-chain is used, in the case of a machine of the type hereinafter illustrated, (1) to slue the jib, when "cutting in"; (2) for "slitting", turning the machine, etc.; and (3) for propelling the machine along the face of the coal when cutting.

The stress put upon the anchored portion of the chain by the rotatable sprocket-wheel of the machine occasionally causes the chain to become jammed in the sprockets of the wheel, so that the links of the chain which ought to travel off from the sprocket-wheel at the side opposite to that at which they approach it, are instead wound up on the sprocket-wheel; consequently there will be jamming of the chain and an interruption to the continuity and smoothness of operation of the coal-cutting machine.

It is the object of the present invention to so construct the machine that the chain aforesaid shall unfailingly be diverted from the sprocket-wheel at the proper place and that jamming such as has occurred heretofore for the reasons above set forth shall thus be prevented.

In the accompanying drawings, Figure 1 illustrates diagrammatically and in plan a coal-cutting machine fitted with the improvements according to the present invention; a top plate which ordinarily is at the rear end of the machine and covers the wheels hereinafter referred to, is omitted from this figure for the sake of clearness.

Fig. 2 is a view similar to Fig. 1 with the machine in a position from which it would travel in a direction opposite to that in which it would travel in Fig. 1, and

Figs. 3 and 4 are sectional elevation and sectional plan respectively to a scale larger than that to which Figs. 1 and 2 are drawn, of a sprocket-wheel and finger that are comprised in the two preceding figures.

Like reference-letters indicate like parts throughout the drawings.

With reference first to Fig. 1, B is the body of the machine, which at one end is provided with the jib J, and at its other end with a central sprocket-wheel S rotatable in bearings in the said other end. This sprocket-wheel S is situated are guiding pulleys G1 and G2 for the chain. There is in line with the sprocket-wheel S another guiding pulley G.

In Fig. 1 the chain C is anchored at A by any suitable anchoring device and is led from the anchor around one side of the guiding pulley G2, around the pulley G and thence around the front side of the sprocket-wheel S; the sprocket-wheel is intended to rotate counter-clockwise in this view and the direction of travel of the machine will be that indicated by the arrow a. The chain C comes on to the sprocket-wheel at the place s1 in the path of the sprockets and is required to leave the sprocket-wheel at the place s2 so that the path of the sprockets while the chain is in them extends through more than a semi-circle in the machine, i.e. from s1 to s2, counter-clockwise, around to s1.

In the similar view, Fig. 2, the direction of travel of the machine as indicated by the arrow therein, is opposite to that in which it would progress in Fig. 1; and correspondingly, the rotation of the sprocket-wheel S is clockwise, the chain in Fig. 2 coming into the circular path of the sprockets at s1 and being required to leave it again at s2.

In Fig. 1 is shown a finger F (see also in Figs. 2, 3 and 4) firmly attached to the machine, by a screw K, and extended into the path of the chain C at the place s2 at which it is desired that the links of the chain should be diverted out of the sprocket-wheel; this finger forms in effect a plow extended into the groove of the sprocket-wheel, so that should the links of the chain tend to remain gripped in the wheel when they come around to the finger F, the latter will "plow" or strip them out of the sprocket-wheel. At B in Fig. 1 is a screw-threaded hole, and in Fig. 2, the finger F and screw K have been shifted from the position in the machine which they occupied in Fig. 1 to a new position as shown,
in which the screw K will be in the hole B'
and the finger F will divert the chain from
the sprocket-wheel at the plate s'. Thus it
will be seen that the finger F can be at-
tached to the machine in each of a plurality
of positions, so that the diverting of the
links of the chain out of the sprocket-wheel
by the finger shall occur at either s^2 or s',
as may be desired.

10  The screw K and hole B' form a simple
means of attaching the finger to the ma-
chine in the desired positions, but any other
strong and simple means could be employed
for the same purpose.

15  During much of the time of operation of
the machine the finger F will have but little
to do, for but little effort is ordinarily re-
quired to free the chain from the sprocket-
wheel at the discharging-point of the latter;
but should any link or links become jammed
in the sprockets, the finger F is always pres-
ent and operates to free them as they move
in relation to the finger in the rotation of
the sprocket-wheel.

20  What I claim as my invention and desire
to secure by Letters Patent is:-
1. In a coal-cutting machine provided with
a haulage-chain which latter is to be an-
chored by one end so that the machine can
pull upon the anchored chain, the combi-
nation of a rotatable sprocket-wheel by
which that pull is exerted, and a finger
(such for example as F') firmly attached to
the machine and extended into the path of
the chain at the place at which it is desired
that the links of the chain should be divert-
ed out of the sprocket-wheel.

2. In a coal-cutting machine provided with
a haulage-chain which latter is to be an-
chored by one end so that the machine can
pull upon the anchored chain, the combina-
tion of a rotatable sprocket-wheel by which
that pull is exerted, a finger (such for ex-
ample as F') firmly attached to the machine
and extended into the path of the chain at
the place at which it is desired that the links
of the chain should be diverted out of the
sprocket-wheel, and means for attaching the
aforesaid finger to the machine in each of a
plurality of positions alternatively, so that
the diversion of the links of the chain out
of the sprocket-wheel by the finger shall
occur at one or the other of two places (such
as s^2 s') in the path of the chain.

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

GILBERT RIMMER.

Witnesses:
FREDERICK PIATT,
GEDDES WHITELAW.