Improvements in and relating to the wiping of treated wire or strip.

A pad wiping material for coated wire or strip and a method of forming such material. The material is a compressed non-combustible material which preferably includes asbestos, teflon or aluminosilicate fibre. The asbestos can be impregnated with graphite.

The method of forming the pad wiping material includes compressing such a non-combustible material into a pad by an application of pressure in the range of 7 to 20 tonnes per square inch.
Pad Wiping Material for the Wiping of Coated Wire or Strip
and a Method of Forming such Material

This invention relates to the wiping of a metal coating applied to a wire or strip.

The invention has particular, although not exclusive application to the wiping of a coating as wire or strip emerges from a bath of molten metal such as zinc, or some other suitable metal coating material.

Up until this time, in the galvanising of wire or coating of wire, the wire or strip has been taken from the bath at a shallow angle to the horizontal and wiped with an asbestos pad or asbestos string.

In one case of asbestos string, the asbestos string is wound around the wire and the wire passed through a slot between a pair of fingers, so that the string is wedged into the slot, thus wiping the surface of the wire or strip. In the case of pads, these have generally been formed by hand, by winding asbestos card into a pad or disc, the pad or disc then being placed in a suitable pad holder.

It is an object of this invention to go someway towards providing an improved material for the wiping of coated wire or strip, and to at least provide the public and manufacturers
with a useful choice.

Other objects will become apparent from the following description.

According to one aspect of this invention, there is provided a material for wiping coated wire or strip, said material including a compressed, non-combustible material.

According to a further aspect of this invention, there is provided a wiping material for pad wiping of coated wire or strip, wherein said material includes a compressed aluminosilicate fibre material.

According to a further aspect of this invention, there is provided a material for pad wiping of coated wire or strip including compressing a non-combustible material into a pad by an applied pressure in a range 7 to 20 tonnes per square inch.

This invention will now be described by way of example only, and it should be appreciated that modifications and improvements may be made to the invention without departing from the scope or spirit thereof.

It has been found in experimentation, that a compressed non-combustible material has particular advantages in the wiping of wire or strip, which has been coated with a suitable coating such as zinc, or some other metal coating material during the processing of wire or strip.

In one form of the invention, the material forming the pad wiping material is an asbestos material which is impregnated with graphite.

This is conveniently formed by rolling asbestos string in powdered graphite, thereafter compacting the impregnated
string into a mass, for example by crumpling it into a ball, and thereafter compressing this within or by way of a suitable press, (not shown) of a known type, at a pressure in the range of about 7 to about 20 tonnes per square inch.

In one form of the invention, the press consists of a 5. piston moving within a tubular member or housing of a cross-section corresponding substantially to that of the resulting pads.

The applied pressure or pressure applied to the pads will vary depending upon the size of the wire to be wiped, and hence the ability of the pad to wrap around the wire on the other hand the ability of the pad to remain as an integral unit during wiping.

When compacted impregnated asbestos string is used therefore, it will be appreciated that the compacting of the asbestos into a pad, causes the pad to remain as an integral unit during wiping.

For large diameter wires, the pads are preferably softer (that is to say compressed at a lower pressure) than would be the case for pads suitable for small diameter wires.

20. In use, it has been found that a lubricant, for example powdered graphite, is required at the beginning of a wiping operation, that is to say, when the wire or strip begins to pass through or past the pad.

However, the graphite material will function as a lubricant for the passage of wire or strip through or by the pad or pads.

The use of the impregnated asbestos is however, by way of example only, and it is envisaged that glass fibre impreg-
nated teflon, when suitably compressed would also have the same advantages.

In a further form of the invention, a pad is formed of an alumino silicate fibre material.

It has been found that by using an alumino silicate fibre material, which is compressed into a pad by an applied pressure in the range of about 7 to about 20 tonnes per square inch, there are a number of advantages.

By way of example the advantages are:

1. The use of alumino silicate fibre removes or at least reduces health hazards which might be present by using the asbestos material as described herein-before by way of example.

2. It has been found during experimentation that the use of alumino silicate fibre material, as a pad wiping material, enables the pad wiping material to withstand temperatures generally higher than asbestos material. For example it has been found that alumino silicate fibre material can generally withstand high temperatures (such as found during wiping operations) of up to approximately 1300°C.

3. The use of alumino silicate fibre material as a pad wiping material has generally been found to give a longer and high pad life than other wiping materials (such as asbestos).

4. By using alumino silicate fibre material as a pad wiping material, it has been found that a
more even wipe is obtained over the wire or strip, than is generally obtained by using other materials (such as asbestos).

5. The use of alumino silicate fibre results in a tighter wipe about the wire or strip, and generally speaking results in a low coating thickness as compared with other materials. The use of alumino silicate fibre is therefore somewhat more economic than other materials.

10. As stated hereinbefore the non-combustible material, be it asbestos, teflon or alumino silicate fibre, is compressed into a unit by pressure in the range of 7 to 20 tonnes per square inch, so as to result in a compressed pad or disc, which is able to be used for the wiping of coated wire or strip.

It should therefore be appreciated that improvements or modifications to this invention may be made without departing from the scope thereof, as defined by the appended claims.

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CLAIMS:
1. Pad wiping material for the wiping of coated wire or strip emerging from a bath of molten metal, characterised in that said material includes compressed non-combustible material.
2. Pad wiping material as claimed in claim 1 wherein said material includes asbestos.
3. Pad wiping material as claimed in claim 2, wherein said asbestos is impregnated with graphite.
4. Pad wiping material as claimed in claim 1, wherein said material is teflon.
5. Pad wiping material as claimed in any one of the preceding claims and wherein the material is compressed by an applied pressure in the range of 7 to 10 tonnes per square inch.
6. Pad wiping material as claimed in any one of the preceding claims and wherein the material is compressed by an applied pressure in the range of 7 to 10 tonnes per square inch.
7. A method of forming a pad for wiping coated wire or strip, characterised in that said method includes compressing a non-combustible material into a pad.
8. A method as claimed in claim 7 and wherein the non-combustible material is compressed into a pad by an application of pressure in the range of 7 to 20 tonnes per square inch.
9. A method as claimed in claim 7 or claim 9 and wherein the non-combustible material is asbestos.
10. A method as claimed in claim 9 and wherein the non-combustible material is asbestos impregnated with graphite.
11. A method as claimed in either of claims 7 or 8 wherein the non-combustible material is alumino silicate fibre.
### DOCUMENTS CONSIDERED TO BE RELEVANT

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### CLASSIFICATION OF THE APPLICATION (Int. Cl.)

| C 23 C 1/00 |

### TECHNICAL FIELDS SEARCHED (Int. Cl.)

| C 23 C       |

### CATEGORIE OF CITED DOCUMENTS

- **X**: particularly relevant
- **A**: technological background
- **O**: non-written disclosure
- **P**: intermediate document
- **T**: theory or principle underlying the invention
- **E**: conflicting application
- **D**: document cited in the application
- **L**: citation for other reasons
- **A**: member of the same patent family, corresponding document

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The present search report has been drawn up for all claims

**Place of search**: VIENNA

**Date of completion of the search**: 01-04-1981

**Examiner**: SLAMA