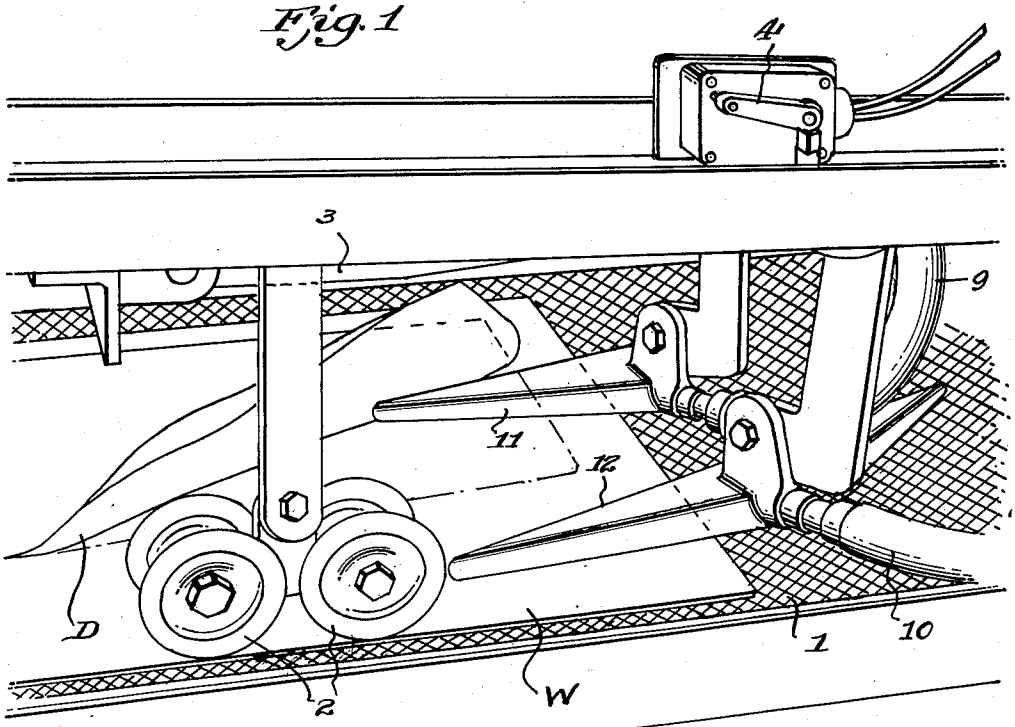
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AUTOMATIC DECALCOMANIA PAPER STRIPPER

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Fig. 1



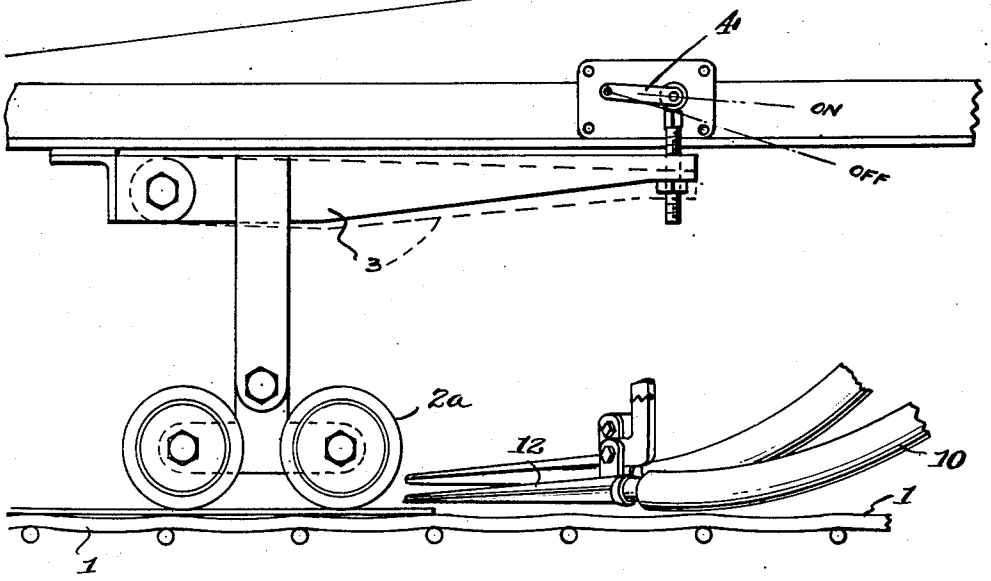


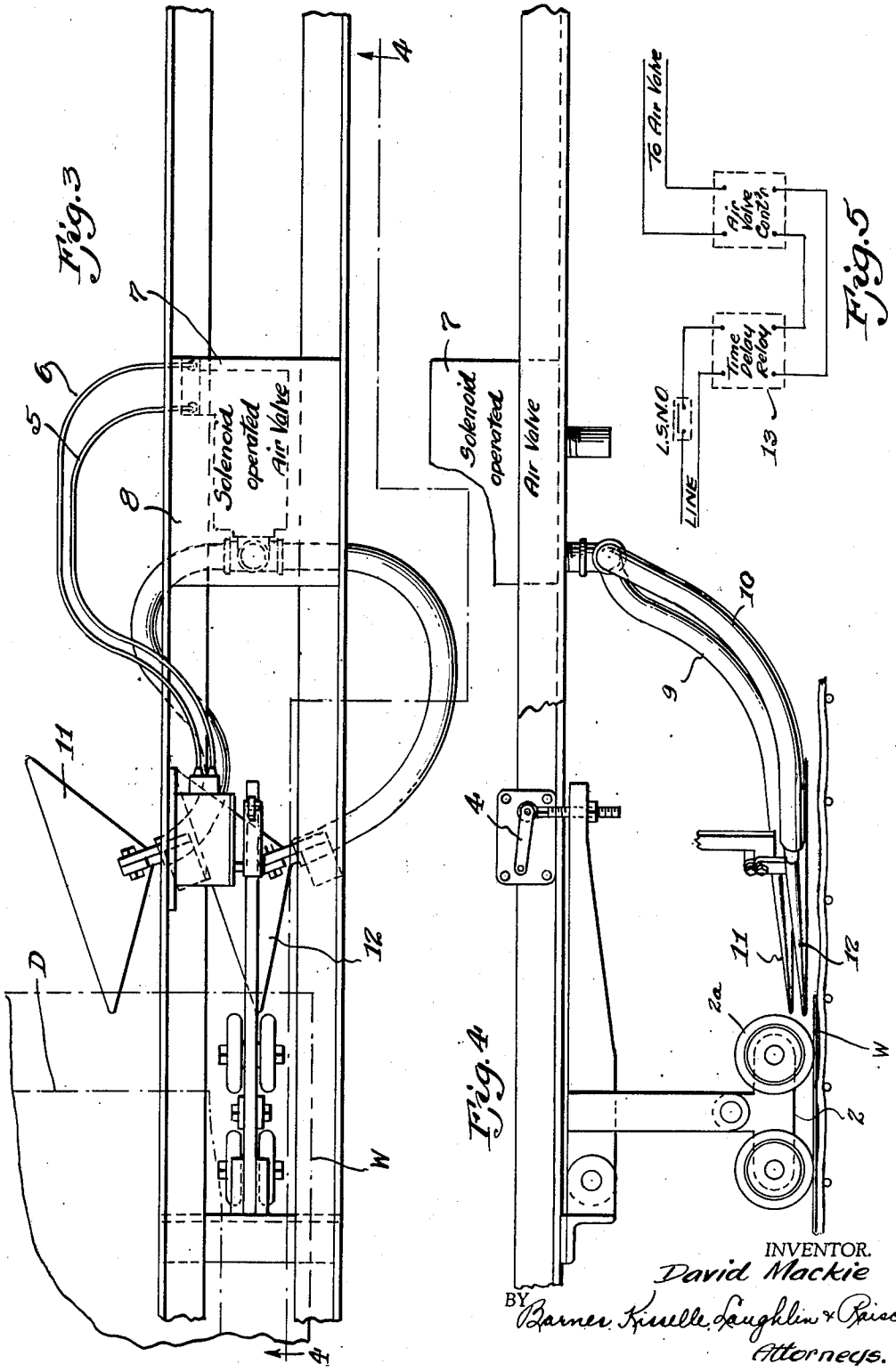
Fig. 2

INVENTOR.
David Mackie
BY Barnes, Kisselle, Raisch & Choate
Attorneys.

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AUTOMATIC DECALCOMANIA PAPER STRIPPER

David S. Mackie, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application March 18, 1942, Serial No. 435,177

8 Claims. (Cl. 41—1)

This invention relates to a decalcomania or transfer stripper.

In graining panels, particularly panels for use for decorative purposes on the inside of an automobile body, it is quite a common process to use a transfer or a decalcomania. These transfers or decalcomania comprise each a backing paper or cloth bearing the decorative material. The transfer or decalcomania is applied to the panel and then soaked with water. The decorative material adheres to the panel and the backing or paper has to be stripped from the panel, leaving the decorative material thereupon. This has heretofore, so far as I have been aware, always been done by hand which is a relatively slow and laborious process. In the hand stripping method the paper quite frequently becomes torn and has to be removed in two or more pieces. When the paper tears, a tool or other means must be used to pry the paper from the panel and very often this operation mars the image or decorative material. By the new method this damage to the transferred material is completely eliminated.

It is the object of the present invention to do this stripping automatically by placing the work panel on a conveyor and passing it through an automatic stripping apparatus.

In the drawings

Fig. 1 is a perspective showing the main part of the stripping apparatus.

Fig. 2 is an elevation with the top front rail removed.

Fig. 3 is a plan view of the apparatus.

Fig. 4 is a longitudinal section of the apparatus taken on the line 4—4 of Fig. 3.

Fig. 5 is a diagrammatic view of the wiring.

The work panel W is carried along on a conveyor 1 and passes under a rubber wheeled switch control member or truck 2. The work carries the decalcomania or transfer D which has been applied to the panel and then soaked with water so that it is in a wet, flat condition upon the panel W. After the work passes under the rollers 2a, it raises the trip bar 3 and this throws the electric switch 4 to the closed position, as shown in Figs. 2 and 4.

The wires 5 and 6 lead to a solenoid 7 operated Ross valve. The details of this are not given as this is a well-known valve now on the market. Any other form of solenoid-operated spring return valve can be used. When this solenoid is energized, the valve opens and this lets air into the two air lines 9 and 10 which lead to the nozzles 11 and 12. These nozzles are shaped much like the nozzles of a conventional vacuum cleaner. As it will be seen from the plan view Fig. 3, the decalcomania or transfer is located somewhat spaced from either edge of the panel W. Hence, the panel W trips the switch and turns the air on before the decalcomania comes opposite the nozzles. The air from the first nozzle strikes the paper both at the corner and at the fore edge and starts the same rolling up, as shown in Fig. 1. The second nozzle jet which is set at a higher elevation strikes the curled up paper and blows it into the scrap bin (see Fig. 4). The wet paper curls up and is blown off the work panel into the scrap bin (not shown) located on the other side of the conveyor.

The panel passes from under the rollers 2a before the panel and the decalcomania have passed the nozzles 11 and 12. Consequently, it is desirable that the air continue to blow from the nozzles and make sure that the transfer is blown off from the panel. To this end the time delay relay, designated 13 in Fig. 5, is provided. This insures that the air valve will continue to remain open for a definite time after the switch 4 has been allowed to open. Just the exact construction of this is a detail that is unimportant as any relay switch which is timed for a delayed opening will serve the purpose. I find that compressed air of about 60 pounds pressure per square inch is suitable for this work. The conveyor is preferably a screen conveyor.

While I am aware that it is old to use air pressure in connection with removing or feeding paper sheets from the top of a stack, so far as I know no one heretofore has provided an automatic apparatus for stripping wet transfers, paper or backings off panels. This involves a suitable coordination of the conveyor, the controls and the nozzles in a way that, so far as I know, is entirely new.

What I claim is:

1. A decalcomania or transfer paper stripping apparatus, comprising a work conveyor which moves a panel bearing the transfer paper and an air nozzle located above the conveyor and directing air in a direction near parallelism with the conveyor and the panel for blowing the transfer paper off the work panel.

2. A decalcomania or transfer paper stripper, having in combination a conveyor which moves a work panel with the transfer paper thereon, one or more nozzles for directing high pressure air in near parallelism with the conveyor and the panel, the said nozzles being of the long and narrow slot type.

3. A decalcomania or transfer paper stripper,

having in combination a conveyor for conveying a work panel bearing the transfer paper, means for furnishing a long and narrow blast of air in near parallelism with the conveyor and work and a switch tripped by the work panel as it passes along the conveyor and means controlled by said switch for controlling the air blast.

4. A decalcomania or transfer paper stripper, having in combination a conveyor for conveying a work panel bearing the transfer paper, means for furnishing a long and narrow blast of air in near parallelism with the conveyor and work and a switch control tripped by the work panel as it passes along the conveyor for controlling the air blast comprising an electric switch and circuit and an air valve controlled thereby.

5. A decalcomania or transfer paper stripper, having in combination a conveyor for conveying a work panel bearing the transfer paper, means for furnishing a long and narrow blast of air in near parallelism with the conveyor and work and a switch control tripped by the work panel as it passes along the conveyor for controlling the air blast comprising a switch in an electric circuit, a time delay relay and an air valve controlled by the latter for controlling the air blast and discontinuing the same a delayed time after the switch opens.

6. A decalcomania or transfer paper stripper, comprising a conveyor for conveying a work panel provided with the transfer paper thereon, a pair of air nozzles of the long-slot type arranged to blow air rearwardly and substantialy parallel to the conveyor and the work panel and means for automatically controlling said air blast as the work passes by the nozzles to turn on and turn off the air.

7. A decalcomania or transfer paper stripper, comprising a conveyor for conveying a work panel provided with the transfer paper thereon, a pair of air nozzles of the long-slot type arranged to blow air rearwardly and substantially parallel to the conveyor, air supply means connected with the nozzles, and means for automatically controlling said air blast as the work passes by the nozzles to turn on and turn off the air comprising a truck provided with rollers under which the work panel passes and lifts the truck and an electric switch tripped thereby and an electrically-operated air valve in said air supply means controlled by said switch.

8. A decalcomania or transfer paper stripper, comprising a conveyor for conveying a work panel provided with the transfer paper thereon, a pair of air nozzles of the long-slot type arranged to blow air rearwardly and substantially parallel to the conveyor, an air supply means connected with said nozzles, and means for automatically controlling said air blast as the work passes by the nozzles to turn on and turn off the air comprising a truck provided with rollers under which the work panel passes and lifts the truck and an electric switch tripped thereby and an electrically-operated air valve in said air supply means controlled by said electric switch through the interposition of a time delay relay switch which defers the closing of the air valve after the work panel has passed out from under the truck.

DAVID S. MACKIE.