Oct. 28, 1930. R. F. PAUP 1,779,916

SHEET CUTTING MACHINE

Filed Jan. 22, 1929

Fig. 1

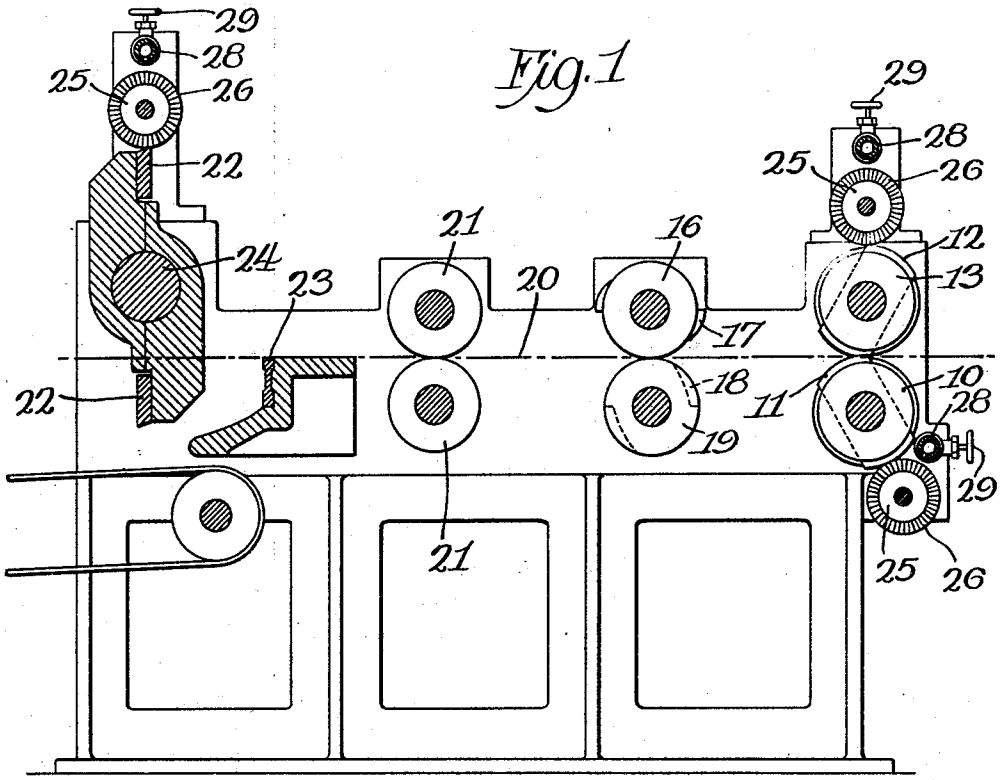
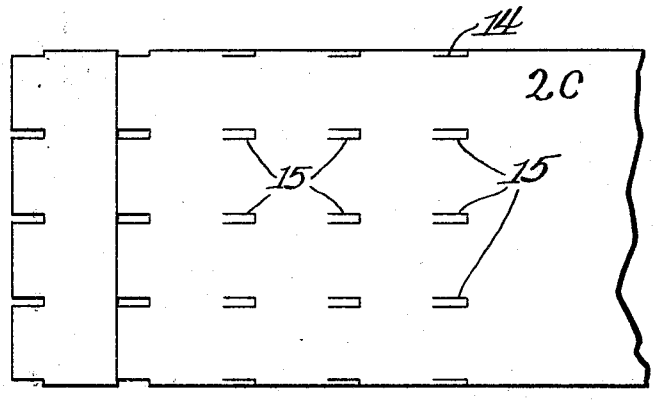


Fig. 2



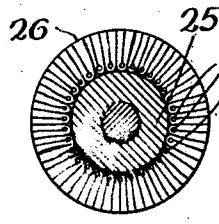


Fig. 3

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UNITED STATES PATENT OFFICE

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SHEET-CUTTING MACHINE

Application filed January 22, 1929. Serial No. 334,194.

The principal object of this invention is to overcome the tendency of asphalt to adhere to the blades used in cutting sheets of prepared roofing and the like.

Fig. 1 is a longitudinal sectional view through a conventional roofing machine with the preferred form of my invention applied thereto;

Fig. 2 is a diagrammatic plan view of a sheet of roofing illustrating the operations performed in converting the sheet into shingle strips and

Fig. 3 is a transverse sectional view through the preferred form of moistening roller used in applying the invention.

But this specific description and the correspondingly specific illustration are used for the purpose of disclosure only and it is intended that the claims should be construed commensurate with the invention, notwithstanding the specific disclosure.

In Fig. 1, 10 indicates a roll equipped with cutters or blades 11 cooperating with blocks 12 on a roll 13. These tools make the two-line cuts 14, Fig. 2, in the margins of the sheet 20 and the three-line cuts 15 in the intermediate portion of the sheet.

The sheet next passes to the left in Fig. 1 to a roll 16 equipped with knockers 17 which cooperate with depressions 18 in a companion roll 19. This operation serves to bend the cut-away portions downwardly in Fig. 1.

The sheet 20 is then drawn by draw rolls 21 and fed to a cutter consisting of fly knives 22 and anvil 23, the former revolving about a shaft 24.

Machines of this general construction are very familiar in the art of roofing manufacturing and for that reason require no specific description.

The asphaltic and other similar compositions used to impregnate the foundation felts and to coat the impregnated felts here generally referred to as asphalt has a strong tendency to adhere to the blades, interfering with the proper performance of their work and causing expensive delays in removing the accumulated matter on the blades. This tendency is readily overcome by keeping the blades slightly moist, but it is particularly important that there shall not be sufficient moisture to be thrown off by centrifugal force and scattered over the surface of the roofing.

The difficulty is best overcome by causing the blades to run against or strike a moist fabric. As shown in Figs. 1 and 3 a roller 25 is mounted adjacent to each blade or the surface to be protected and is fitted on its exterior with a plurality of sheets 26 of wool felt folded along the middle and held to the roll by wires 27. The rolls 25 are driven, if at all, only by the action of the blades or the like. The structure of these rolls is very similar to the so-called couching rolls used in paper manufacturing machines and for convenience they will be designated by that name.

Adjacent to each roll is mounted a perforated pipe 28 equipped with valves 29 controlling a supply of water or other suitable liquid.

In practice it will be sufficient to open the valves for a short time intermittently, thereby supplying a limited amount of liquid to the felt, and it should not be more than is necessary to just moisten the surfaces of the blades or the like that come in contact with the sheets of felt 26.

By this simple expedient the difficulty so common in these machines of the asphalt adhering to the metallic surfaces and interfering with the proper operation of the machine, is entirely overcome.

I claim as my invention:

1. In a machine of the class described, a rotating blade adapted to cut sheets treated with asphalt and having successive cutting operations, a moisture receiving roll contacting with the blade between successive cutting operations and applying moisture to the blade.

2. In a machine of the class described, a blade rotating about an axis lying substantially in the plane of its edge, a rotatable roll mounted on a parallel axis, a moisture receiving fabric carried by the roll and lying in the path of the blade, and means for moistening the fabric.

3. In a machine for cutting sheets treated

with asphalt, a cutting blade having intermittent cutting operations, an absorbent device normally out of contact with the blade and disposed to be struck and wiped by the cutting blade between the cutting operations thereof for applying moisture to the blade preparatory to cutting, and means for supplying moisture to the absorbent device.

4. In a machine for cutting sheets treated with asphalt, a cutting blade having intermittent cutting operations, an absorbent device including an idle roll having an absorbent surface, said roll being disposed to be struck, wiped and rotated by the cutting blade between cutting operations thereof for applying moisture to the blade preparatory to cutting, and means for applying moisture to the absorbent surface of the roll.

5. In a machine for cutting sheets treated with asphalt, mutually co-acting cutting elements having intermittent cooperative cuting operations, an absorbent member normally out of contact with the cutter members and disposed in the path of one of the cutter members remote from the location of the cutting operations thereof to be struck and wiped by said cutter member between successive cutting operations thereof for applying moisture to said cutter member preparatory to each cutting operation thereof, and means for supplying moisture to the absorbent member.

In testimony whereof I affix my signature.

ROY F. PAUP.