Jan. 10, 1933. N. P. HARSHBERGER 1,894,037

SHINGLE MACHINE

Filed Jan. 16, 1929

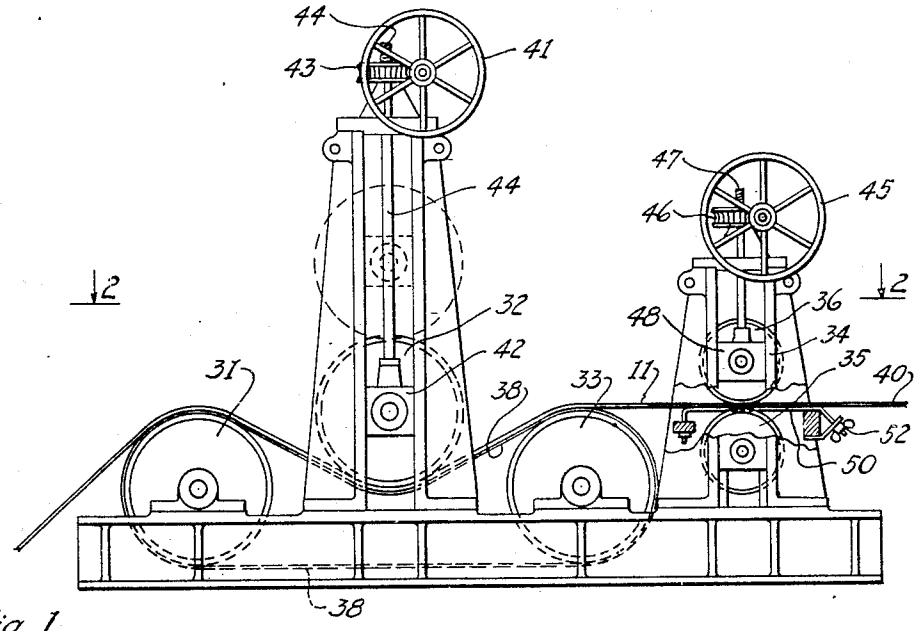


Fig. 1

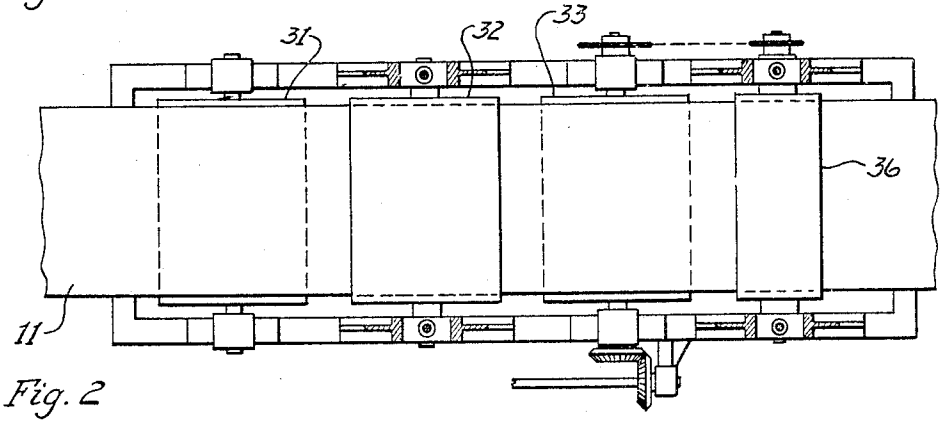


Fig. 2

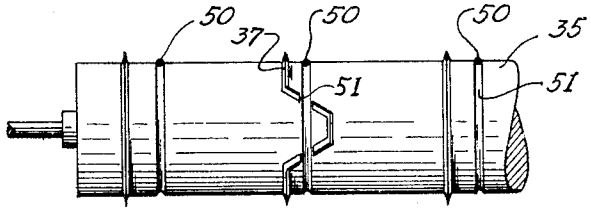


Fig. 3

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UNITED STATES PATENT OFFICE

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SHINGLE MACHINE

REISSUED

Application filed January 16, 1929. Serial No. 332,913.

This invention relates to methods of preparing shingle material and forming shingles therefrom and providing apparatus therefor. The general object is to provide a machine for cutting the webs of shingle material into shingles of any desirable shape. Special objects of the invention will be apparent from a consideration of the drawing and the following description thereof.

Of the drawing, Fig. 1 is an elevation of the machine for cutting the shingles; Fig. 2 is a sectional plan view of the shingle cutting machine along the line 2—2 of Fig. 1; and Fig. 3 is an enlarged plan view of a portion of a cutting roller of the machine.

As is well understood, ordinary asphalt shingles are made by impregnating sheets of suitable material, such as felt, with asphalt or some other suitable material, and, while the asphalt is soft, by sprinkling on the surface of the sheet suitable granulated mineral such as slate. The sheet of prepared material is then dried until the asphalt hardens sufficiently, and the webs thus formed are then ordinarily rolled into rolls for transportation or other use. The webs are then passed through suitable machines for cutting them into individual or strip shingles.

The web is passed over a roller 31, under a roller 32, and over a roller 33. Around these rollers 31, 32 and 33 plays a belt or belts 38 against which the web is pressed by the adjustable roller 32. These rollers are so positioned and arranged as to hold the web substantially taut, and, together with the belt 38, to pull the web and to push it forward towards the cutting portion of the machine. The belt 38 not only assists in carrying the web forwardly, but it also supports the web so that danger of rupture or distortion is eliminated.

This cutting portion comprises a framework 34 in which is journaled a cutting roller 35. The upper surface of this roller is substantially of the same elevation as the upper surface of the feeding roller 33, so that the web 11 is fed horizontally across the top of the cutting roller. A second roller 36 is mounted for vertical movement and is adapted to be so positioned as to press down on the web 11, as it passes over the cutter roller, sufficiently to cause the knives 37 mounted on the surface of the cutter roller to cut the web into shingles.

The knives 37 mounted on the cutter roller 35 are arranged and shaped so as to cut out shingles of the form desired. After being cut, the shingles 40 are passed out of the machine and removed in any suitable manner. The cutting mechanism may be operated in any suitable manner.

The roller 32 is mounted for vertical movement and may be elevated or lowered by means of a hand wheel 41 or in any suitable manner. I prefer to have the hand wheel connected to the bearing 42 of the roller by means of a worm wheel 43 which is threaded on to a shaft 44 connected with the bearing. If it is desired to remove the web, or when the web is entered into the machine, the roller 32 may be elevated and the web 11 passed freely into the cutting rollers.

The roller 36 may be elevated and lowered in a similar manner by means of a hand wheel 45 which is arranged to operate the worm wheel 46 threaded on to the shaft 47 which is fixed to the bearing 48 of the roller 36.

As will be understood, when the shingles are cut from these webs of pliable material, there is a tendency for the shingles to be carried around on the surface of the cutting roller 35 between the knives. In order to strip the shingles from the surface of this roller, any suitable means may be provided. I prefer to provide for the purpose the wires or rods 50 which pass between the webs 11 and the surface of the roller 35, passing through openings 51 in the knives, and, preferably, along grooves 51′ in the surface of the roller. These rods are supported in any suitable manner. I prefer to support them by their ends on each side of the cutting roller, and by means of a nut 52 threaded on one end of each of the rods, the rods may be sufficiently tightened for the purpose.

It is to be understood that these strippers will strip from the cutting rollers not only the complete shingle but also any waste pieces that may be cut out by the knives.

I claim as my invention:

1. In a shingle making machine, a cutting roller having knives provided with cutting edges, means for stripping cut shingles from said roller, said means comprising elongated members running across a portion of the periphery of the roller, and means for tensioning said elongated members, the cutting edges of the knives projecting beyond the periphery of the roller a greater distance than the elongated members.

2. In a shingle making machine, a cutting roller having knives provided with cutting edges, means for stripping cut shingles from said roller, said means comprising elongated members running across the upper portion of the periphery of said roller, said roller having circumferential grooves therein, and said elongated members running horizontally in said grooves, and means for tensioning said elongated members, the cutting edges of the knives projecting beyond the periphery of the roller a greater distance than the elongated members.

3. In a shingle making machine, a cutting roller having knives provided with cutting edges, means for stripping cut pieces of shingle material from said roller, said means comprising rods running along the periphery of said roller, and means for tensioning said rods the cutting edges of the knives projecting beyond the periphery of the roller a greater distance than said rods.

4. In a shingle making machine, a cutting roller, a movably mounted endless belt for feeding strips of shingle material to said cutting roller, means for pressing said strips against said belt, worm and worm wheel means for adjusting said pressing means, and means for stripping cut pieces of shingle material from said cutting rollers.

5. In a shingle making machine, a cutting roller, a movably mounted endless belt for supporting and feeding shingle strips to said cutting roller, adjustable means for pressing said shingle strips against said belt and for deflecting the belt below its normal plane of travel to obtain a firmer grip on the material, and means for stripping cut pieces of shingle material from said cutting roller.

In testimony whereof, I hereunto set my hand.

NORMAN P. HARSHBERGER.