Oct. 16, 1951 J. L. WATSON 2,571,978

MACHINE FOR PREPARING MASKING PAPER

Filed Oct. 9, 1947 2 SHEETS—SHEET 1

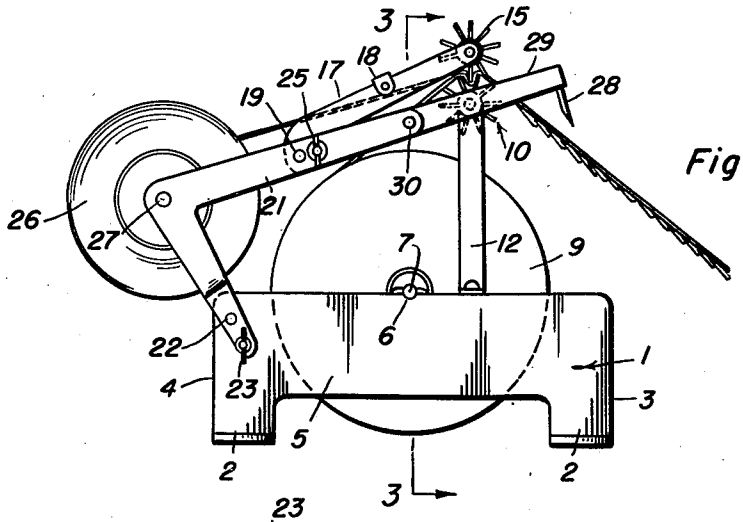


Fig. 1.

Fig. 2.

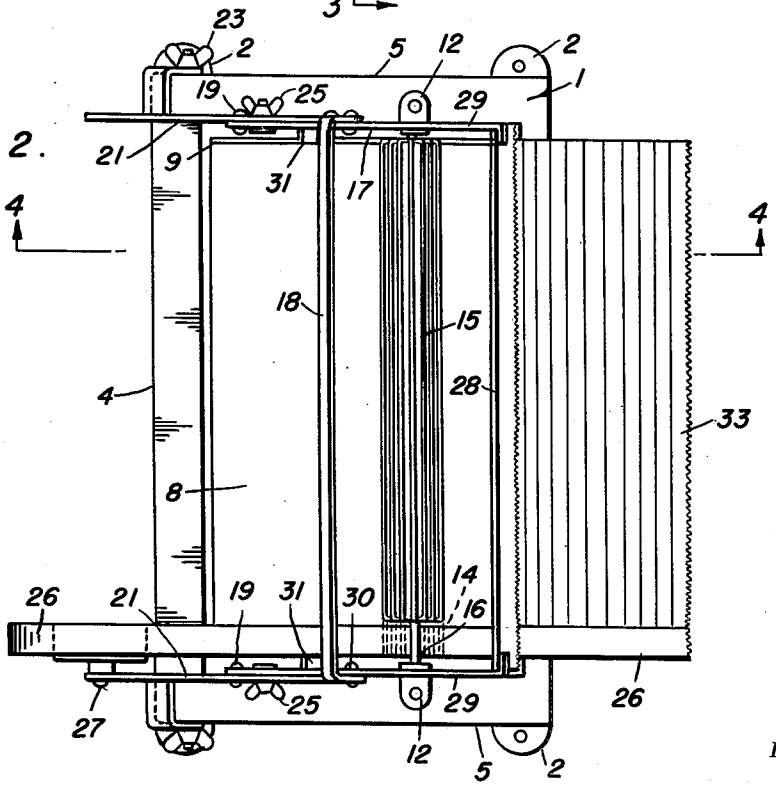
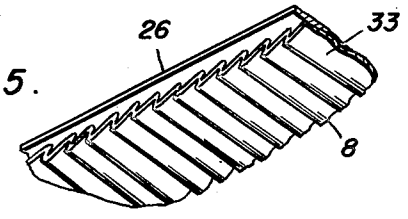


Fig. 5.



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MACHINE FOR PREPARING MASKING PAPER

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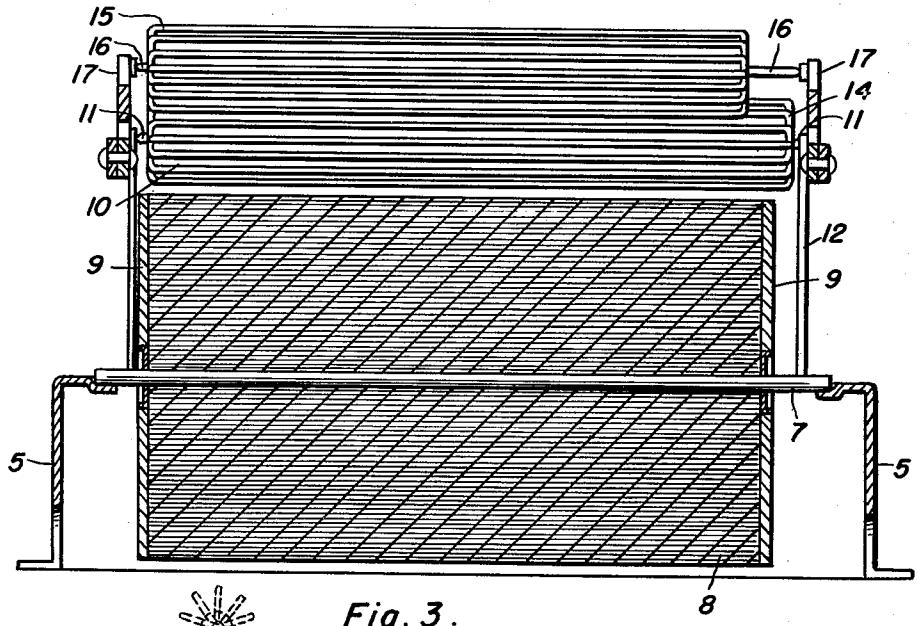


Fig. 3.

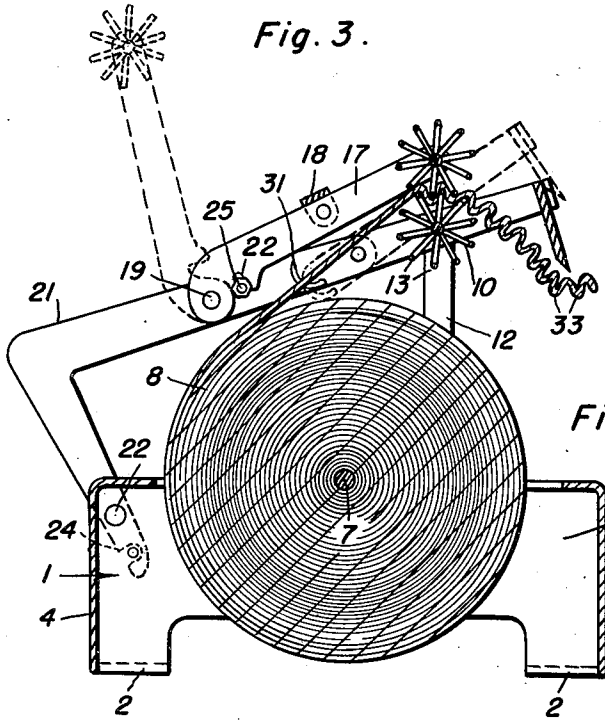


Fig. 4.

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MACHINE FOR PREPARING MASKING PAPER

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4 Claims. (Cl. 154—31)

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My invention relates to improvements in machines for and methods of preparing masking paper for use in repainting automobiles, especially, although not necessarily.

The primary object of my invention is to prepare the usual strip masking paper so as to easily follow curves with one edge of the strip in masking off surfaces.

Another object is to provide a practical, simple machine of inexpensive construction for quickly and easily preparing masking paper for masking off curves, without tearing the paper and while the same is being pulled off a roll of the same.

Still another object is to provide a method of preparing such paper for the purpose specified which may be practiced easily and quickly without requiring special skill.

Other and subordinate objects, also within the purview of my invention, together with the precise nature of my improvements will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in side elevation illustrating my improved machine for practicing my improved method in a preferred embodiment thereof;

Figure 2 is a view in plan;

Figure 3 is a view in vertical transverse section taken on the line 3—3 of Figure 1 and drawn to a larger scale;

Figure 4 is a view in vertical transverse section taken on the line 4—4 of Figure 2 and drawn to a larger scale; and

Figure 5 is a fragmentary view in perspective of the prepared masking paper.

Referring now to the drawings by numerals, the machine of my invention, as illustrated, comprises a rectangular skeleton base 1, of sheet metal preferably, including corner legs 2, a front 3, a back 4 and ends 5. A pair of bearing notches 6 are provided in the upper edges and vertical center of the ends 5 and which are adapted to rotatably seat therein the ends of a spindle 7 confined against endwise play by said notches and upon which is fixed, in a manner presently described, a roll 8 of masking paper adapted to be unwound from the top of the roll forwardly of said base 1.

Brake discs 9 suitably fixed on the spindle 7 for removal to replace the roll 8 are provided at opposite ends of said roll 8 for clampingly engaging said ends to fix said roll relative to the spindle 7. The brake discs 9 are adapted to be engaged by brake shoes presently described.

A paper crimping roll 10 extends longitudinally above said roll 8 and parallel therewith and is offset forwardly of the spindle 7 with end needle

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bearings 11 journaled in a pair of fixed uprights 12 upstanding from the ends 5 of the base 1. The crimping roll 10 is preferably of skeleton rod construction with longitudinal, peripheral rods 13 spaced circumferentially around the roll a distance suitable for a purpose presently apparent. The crimping roll 10 is vertically aligned at one end with one end of the roll 8 and has its other end 14 projecting slightly beyond the other end of said roll 8 for a purpose presently seen.

A second paper crimping roll 15 is provided above the said roll 10 and similarly constructed to mesh therewith, but is shorter and mounted so that one end is offset inwardly from the projecting end 14 of said roller 10. The crimping roll 15 is journaled by end needle bearings 16 thereon in the front ends of a pair of yoke bars 17 adjacent opposite ends 5 of the base 1, said bars 17 being connected by a hand grip cross bar 18 and pivoted at rear ends thereof, as at 19, for vertical swinging movement on a pair of V-shaped support bars 21 rising from opposite ends 5 of the base 1 in the rear thereof and extending forwardly above the roll 8 with rear ends pivoted, as at 22, on said base 1 for vertical swinging adjustment of said bars 21 for a purpose presently explained.

Bolts 23 in the ends 5 of the base 1 extending through notches 24 in the rear ends of said support bars 21 provide for maintaining said bars in normal position. Similar bolts 25 in the support bars 21, and notches 22 in the yoke bars 17 limit downward swinging of said yoke bars and hence the crimping roll 15 so as to establish the normal position thereof.

A roll 26 of adhesive, pressure sensitive tape, is rotatably mounted, as at 27, on one support bar 21, in the rear of the roll 8 and at the same end of the base 1 as the projecting end 14 of the crimping roll 10, said roll 26 being aligned with said end 14 and otherwise arranged so that tape pulled forwardly off the top of its roll may be trained forwardly over said projecting end 14 of said roll 10 clear of the adjacent offset end of the second crimping roll 15.

Forwardly of the crimping rolls 10, 15 is a vertically disposed paper cut-off knife blade 28 extending longitudinally of said rolls, and having its ends suitably fixed to the front ends of a pair of rocker bars 29 adapted to extend forwardly above the roll 8 and which are pivoted, as at 30, intermediate the ends thereof on the front ends of the support bars 21 for vertical rocking movement together with the cut-off knife blade 28.

Suitable laterally projecting brake shoes 31 on the rear ends of the rocker bars 29 are adapted to engage the top of the brake discs 9 when the rocker bars 29 are rocked by pressure exerted upwardly against said cut-off knife blade 28.

Referring now to the use and operation of the described machine. As will be clear, in the described limit of downward swinging movement of the yoke bars 17 the second crimping roll 15 meshes with the paper crimping roll 10 and the bolts 25 and notches 22 provide for locking said bars 17 in such position and said roll 15 in meshing position. By loosening the nuts 25 and using the hand grip cross bar 18, the yoke bars 17 may be swung upwardly to swing said roll 15 out of mesh with the relatively stationary paper crimping roll 10. The cut-off knife blade 28 normally overbalances the rocker bars 29 to disengage the brake shoes 31 from the brake discs 9. With the second paper crimping roll 15 swung out of mesh, as shown by dotted lines in Figure 3, the outer end of the roll 8 of masking paper is pulled forwardly under said roll 15 and between the yoke arms 17 and extended over the crimping roll 10 and under the cut-off knife blade 28, and the said roll 15 is then lowered and locked to initially crimp the masking paper transversely in a manner which will be clear. The tape 26 is then pulled off its roll, adhesive side down, led over the crimped edge of the masking paper on the projected end 14 of the crimping roll 10 with said tape partly overlying said edge, and then pulled downwardly and forwardly. This causes the paper crimping roll 10 to rotate and thereby rotate the second paper crimping roll 15 to feed the masking paper 8 forwardly from said rolls, while at the same time crimping the same, as shown in Figure 4, the tape 26 adhering to the crimps or pleats 33 at the edge of the masking paper on the projected end 14 of the roller 10 and permanently forming said crimps or pleats 33 at said edge, as shown in Figure 5. When a sufficient length of the crimped masking paper 8 has been pulled from between said rolls 10, 15, said length is swung upwardly against the cut-off knife blade 28 and severed. This exerts upward pressure on said knife blade 28 causing the rocker arms 29 to swing in a direction to engage the brake shoes 31 with the brake discs 9 to prevent over-rotation of the roll 8 of masking paper.

By adjusting the support bars 21 on the pivots 22 upwardly and rearwardly, said bars together with the yoke bars 17, the second paper crimping roll 15, rocker bars 29 and cut-off knife blade 28 may be swung upwardly and rearwardly to clear the base 1 so that a new roll 8 of masking paper may be positioned on the spindle 7 and said spindle replaced. The manner in which the new roll may be fixed to the spindle will be obvious.

In using the crimped, or pleated, taped paper described, the taped edge is adhesively secured to a surface to be masked by the portion of the tape 26 projecting beyond the taped edge of the paper. In applying the taped edge to follow a curve arching toward one edge of the paper, the crimps, or pleats 33, will open up, fanwise, and this makes such following of a curve possible. By disengaging the second paper crimping roll 15 from the paper crimping roll 10, as by holding said roll 15 elevated, the masking paper 8 may be taped at one edge without crimping the same for use in flattened out condition.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification without departing from the inventive concept and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a machine of the class described, a base, means for rotatably supporting a roll of masking paper on said base to be fed off its roll, a feeding and crimping roll mounted on said base and over which the paper is adapted to be extended for feeding and crimping, said roll comprising circumferentially spaced longitudinal rods, a second similar feeding and crimping roll gravity actuated to mesh with said first mentioned roll and cause said rolls to crimp the paper transversely, and a roll of adhesive tape rotatably mounted on said base to be pulled off its roll and applied to one crimped edge of the paper to maintain said edge permanently crimped, one of said rollers having an end extended beyond the other roller for supporting said crimped edge clear of the other roller to provide for applying said tape to said edge, said one roller being rotatable by pull on the tape applied to said edge of the paper and thereby rotating said other roll to cause said rollers to feed the paper.

2. In a machine of the class described, a base, means for rotatably supporting a roll of paper on said base to be fed off said roll, a feeding and crimping roll mounted on said base and over which the paper is adapted to be extended for feeding and crimping, said roll comprising circumferentially spaced longitudinal rods, a second similar feeding and crimping roll meshing with said first mentioned roll to cause said rolls to crimp the paper transversely, and a roll of adhesive tape rotatably mounted on said base to be pulled off its roll and applied to one crimped edge of the paper to maintain said edge permanently crimped, one of said rolls having an end extending beyond one end of the other roll for supporting said crimped edge clear of the other roll to provide for applying the tape.

3. The combination of claim 2 wherein there is provided, a cut off knife for severing lengths of crimped paper vertically swingable by pressing the paper against the same, and brake means for preventing over rotation of said roll operative by vertical swinging of said cut off knife.

4. In a machine of the class described, a paper crimping roll over which a sheet of paper is adapted to be extended and pulled for feeding and crimping, said roll comprising circumferentially spaced longitudinal rods, and a second similar paper feeding and crimping roll meshing with the first roll to cause said rolls to crimp and feed the paper, the first mentioned roll having one end extending beyond one end of the second roll for supporting one crimped edge of the paper clear of the second roll for applying tape to the clear edge to maintain said edge permanently crimped and supporting means for a supply of adhesive tape for application to said clear edge.

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