

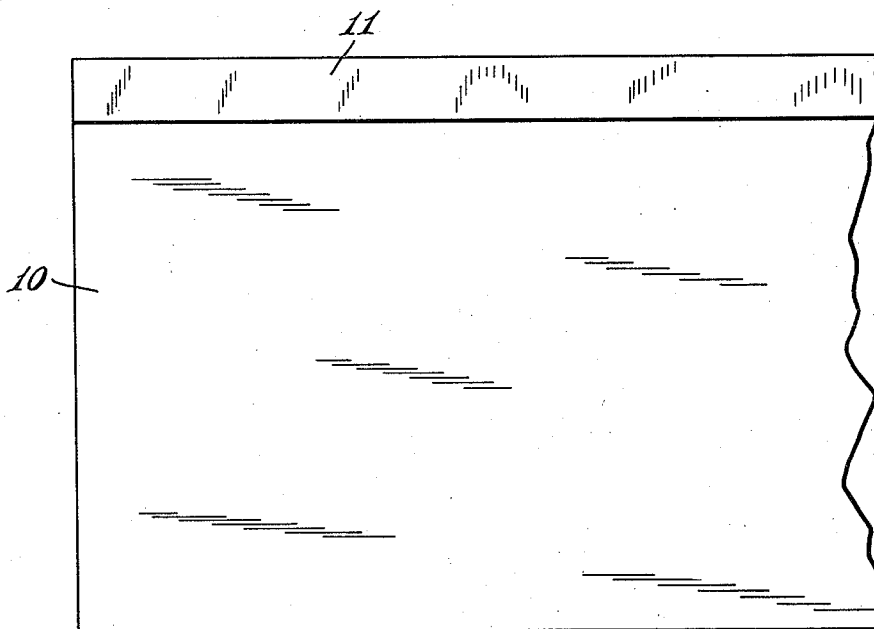
Oct. 28, 1930.

J. O. DOTY ET AL

1,779,588

MASKING STRIP

Filed June 22, 1927



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UNITED STATES PATENT OFFICE

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MASKING STRIP

Application filed June 22, 1927. Serial No. 200,550.

The objects of our invention is to produce a new article of manufacture, which may be conveniently referred to as a masking strip for facilitating the accurate application, by spray devices, or otherwise, of paints, varnishes, lacquers, etc., to articles such, for instance, as automobile bodies.

The present practice of application of various colors to automobile bodies, especially by means of a spray gun, requires the protection of various portions of the body, at different times, from the spray, the application of which cannot be accurately controlled by the spray gun itself. For this purpose it has been customary, recently, to use an adhesive tape, quite like the well known surgical adhesive tape. The common practice, especially where the work is being performed by a single workman, is to cause the tape to adhere, by light pressure along a line immediately adjacent the surface which is to be coated. The very edge of this tape is then lifted slightly and a sheet of paper of desired extent inserted beneath it and the tape then pressed to place. The sheet of paper will have sufficient width and extent to thoroughly protect the surface which is to be protected and when the application of color has been completed the tape is stripped from the surface and thrown away because the adhesive material carried by the tape is of such character that having been once applied to any surface, it does not again firmly adhere to another surface. Occasionally a second use of the tape may be had, but not often. The application of proper masks to a job, such as an automobile body, by the above described means and method is a tedious and time consuming operation and is also fairly expensive because of the limited usability of the adhesive tape.

The object of our present invention is to provide a masking strip of such character that it may be readily and quickly applied to surfaces to be masked and such that it may be repeatedly used upon successive jobs.

The accompanying drawing illustrates our invention, 10 indicating a sheet or strip of paper or other suitable flexible and protective material, of convenient width, say about

9" more or less, and carrying upon one edge a comparatively narrow strip 11 of an adhesive material preferably of such character that it may be firmly associated with the paper strip and, when applied with light pressure and at normal temperatures, will adhere firmly against a lateral displacement in the plane of the sheet, to many successive surfaces to which it may be applied, yet may be readily stripped from such surfaces.

While there may be many compositions of matter which will possess the desired adhesive qualities and which will retain such qualities for extended periods of time and through many successive applications to surfaces to be protected, our present knowledge has lead us to the belief that the most satisfactory results may be obtained in the following manner:

Assuming that approximately 100 lbs. of adhesive material is desired we take 60.25 lbs. of commercial rubber hydrocarbon to which we add sufficient benzole, say about 5 lbs., to produce a liquid of about the consistency of whipping cream. To this we add 15.46 lbs. of zinc oxide stirring thoroughly until a doughy mass has been produced. We then add, without regard to order of addition, 8.95 lbs. of organic acetone, 1.11 lbs. chloroform, 8.20 lbs. sulphur and 1.03 lbs. paraffine oil, stirring the mass until it is thoroughly mixed and forms a dough-like mass which is then rolled between polished rollers to a desired width and thickness, say from $\frac{1}{2}$ to 1" wide and about 0.003" in thickness and applied to a strip of Holland or other protective material which will strip readily therefrom. The exposed surface of the adhesive is then slightly moistened with benzole and then exposed surface is then applied, with considerable pressure to the desired portion of the paper strip 10.

The application of the adhesive to the paper in the above described manner causes such an intimate contact between the paper and the adhesive that the adhesive cannot be readily separated from the paper. If desired the Holland may then be stripped from the adhesive and the sheet rolled into convenient form for shipping and handling. Care must

be exercised not to bring two portions of the exposed face of the adhesive together because when that is done separation tears the adhesive and is apt to ruin it for subsequent use.

5 When the prepared paper strip is rolled, however, the exposed surface of the adhesive will adhere slightly to the paper as it is rolled but will readily strip therefrom upon unrolling.

10 In use our prepared mask strip may be very readily and quickly applied by a single workman and will be firmly held in place against all movement or removal by a stripping force at right angles to the surface. The paper is
15 wide enough to afford ample protection of the surface adjacent that to which the color is to be applied. As soon as the need for the mask is passed the mask may be readily stripped from place and re-rolled for use in
20 a subsequent operation. We have found that when the adhesive is made in the manner hereinbefore set forth it will still be serviceable after many operations even though the strip has not been rolled and the adhesive has
25 theretofore been left open to the atmosphere.

In course of time the edge of the strip along the outer edge of the adhesive is apt to become somewhat uneven because of uneven accumulation of the paint, varnish or
30 lacquer and then unevenness is apt to occur long before the adhesive has reached a condition where it is no longer readily adhesable to surfaces to be protected. Consequently, while a comparatively narrow strip of adhesive
35 is sufficient to successfully hold the paper against displacement, it is quite desirable that it be originally of sufficient width to permit occasional trimming so that a fresh sharp edge may be presented along the line up to
40 which the desired color is to be applied.

We claim as our invention:

1. As an article of manufacture a masking strip comprising a sheet of paper of substantial width and of a length substantially
45 greater than the width provided along one lengthwise edge with a narrow strip of adhesive, said adhesive strip being of such character and width as to firmly adhere to the sheet, and to be successively adhesable to a
50 substantial number of surfaces to be protected in such manner as to firmly retain the sheet against displacement in its own plane but to be readily withdrawn from such surface by a stripping force applied at an angle
55 to said surface.

2. As an article of manufacture a masking strip consisting of a strip of flexible protective material of substantial width provided
60 along one edge with a narrow strip of adhesive firmly secured thereto, said adhesive being composed of rubber hydrocarbon, organic acetone, chloroform, zinc oxide, sulphur, paraffine oil and benzole.

65 In witness whereof, we have hereunto set

our hands at Indianapolis, Indiana, this 20th day of June, A. D. one thousand nine hundred and twenty-seven.

JOHN OMER DOTY.
PAUL C. ORCUTT.

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DISCLAIMER

1,779,588.—*John Omer Doty* and *Paul C. Orcutt*, Indianapolis, Ind. MASKING STRIP.
Patent dated October 28, 1930. Disclaimer filed January 17, 1942, by the
assignee, *Minnesota Mining & Manufacturing Co.*

Hereby enters this disclaimer to claim 1 of said patent.

[*Official Gazette August 4, 1942.*]