



US 20230230719A1

(19) **United States**(12) **Patent Application Publication**
TOBA(10) **Pub. No.: US 2023/0230719 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **TRANSPARENT FILM AND
MANUFACTURING METHOD THEREFOR**(52) **U.S. Cl.**
CPC *H01B 5/14* (2013.01); *H01B 1/22*
(2013.01); *H01B 13/30* (2013.01)(71) Applicant: **Resonac Corporation**, Tokyo (JP)(72) Inventor: **Masahiko TOBA**, Tokyo (JP)(73) Assignee: **Resonac Corporation**, Tokyo (JP)(21) Appl. No.: **18/189,419**(22) Filed: **Mar. 24, 2023****Related U.S. Application Data**(63) Continuation-in-part of application No. PCT/JP2021/
034123, filed on Sep. 16, 2021.(30) **Foreign Application Priority Data**

Sep. 25, 2020 (JP) 2020-160924

Publication Classification(51) **Int. Cl.**
H01B 5/14 (2006.01)
H01B 1/22 (2006.01)
H01B 13/30 (2006.01)(57) **ABSTRACT**

A transparent film including: a transparent substrate; and a conducting fiber-containing layer that is stacked on at least one main surface of the transparent substrate material and contains conducting fibers substantially evenly dispersed in a plane view and a binder resin. The transparent film has a high resistance part in which an undercoat layer is provided between the transparent substrate material and the conducting fiber-containing layer, and a low resistance part in which the undercoat layer is not provided between the transparent substrate material and the conducting fiber-containing layer. The relationship between a sheet resistance value R_H of the high resistance part and a sheet resistance value R_L of the low resistance part is expressed as $R_H/R_L > 100$. The undercoat layer contains a resin having at least one group or boding part having (—NH—).

