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**Bodmer et al.**

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## [54] ARTICULATED DUCT FUME COLLECTION AND EXHAUST APPARATUS

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## [57] ABSTRACT

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[58] Field of Search ..... 454/63, 65

A fume and/or dust collection apparatus adapted for concentrated sources of fumes and particulate matter includes an elongated duct connected at one end to a vacuum source and adapted to be supported by a wall bracket or a portable console and a fume collection hood at the opposite end of the duct. One or more flexible joints are interposed in the duct between the support bracket and the hood. Joint support mechanism for each flexible joint includes opposed pairs of pivotally connected arms which interconnect rigid sections of duct on each side of the flexible joint. The connections between the arms of each set include a friction clutch and ratchet and pawl mechanism which permits free movement of the flexible joints in a direction which is opposite that which the hood would move under its own weight while providing for counterbalancing the weight of the apparatus distal of the support bracket and a positive force required to position the hood precisely in the other direction. The friction clutch and ratchet and pawl mechanism is interposed between the arms of each set of arms about a pivot connection formed by a bolt and nut assembly, which may be adjusted to change the friction force required to slip the clutches of each joint support mechanism.

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**22 Claims, 3 Drawing Sheets**

