No. 616,189. Patented Dec. 20, 1898.

W. W. HUNTLEY.

SEPARATING MACHINE.

(Application filed Mar. 10, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

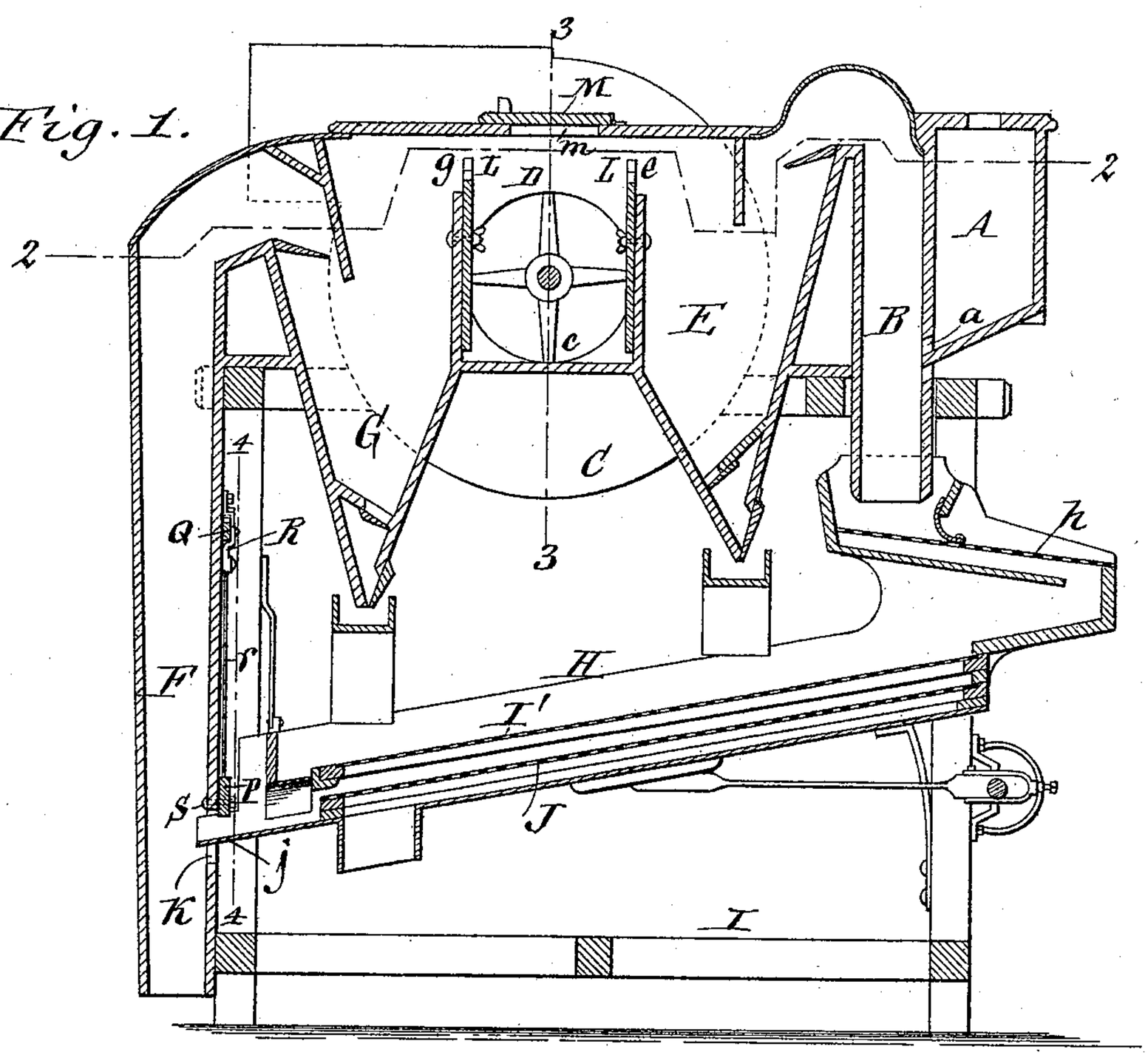

Fig. 2.

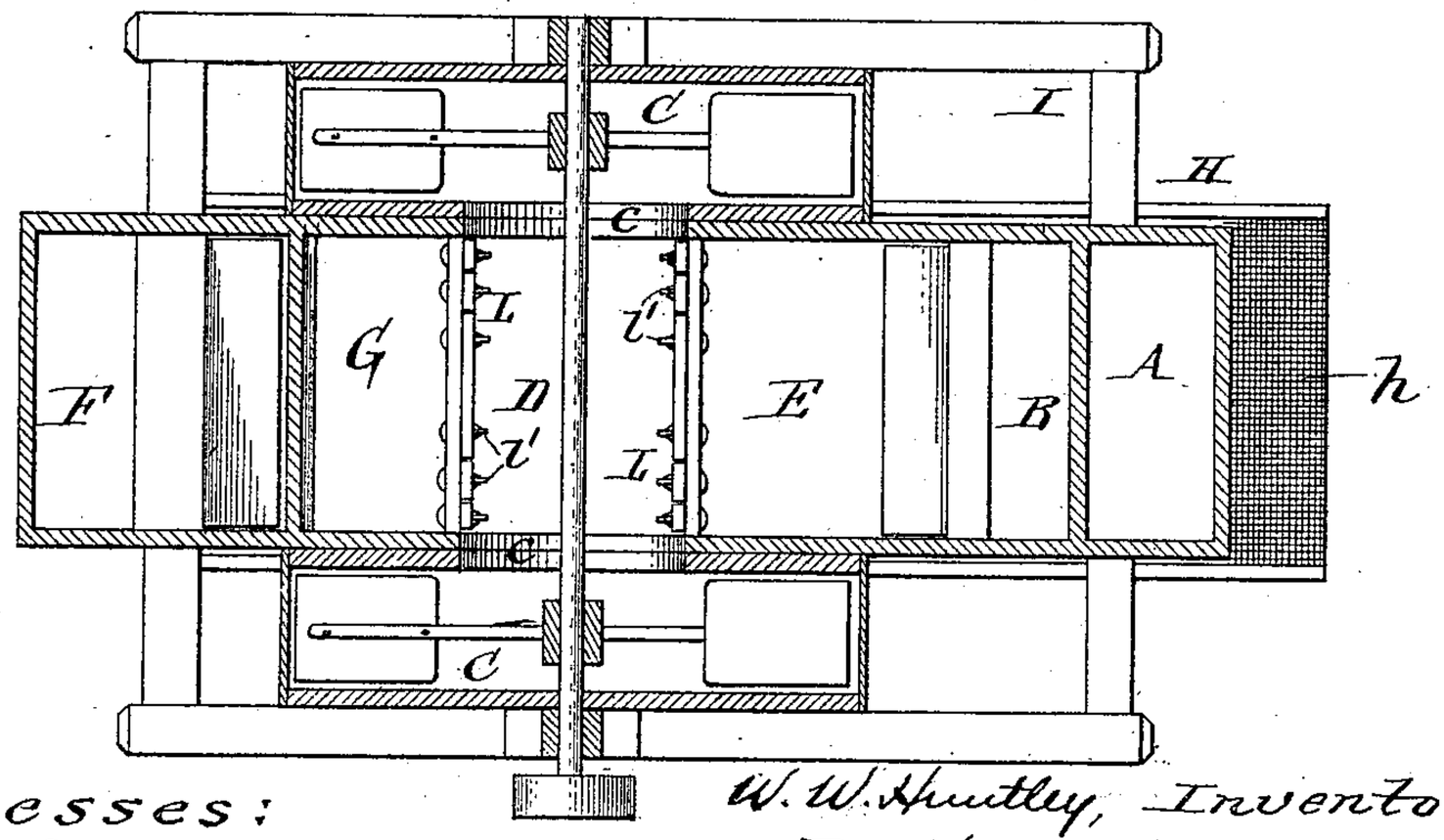

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Fig. 3.

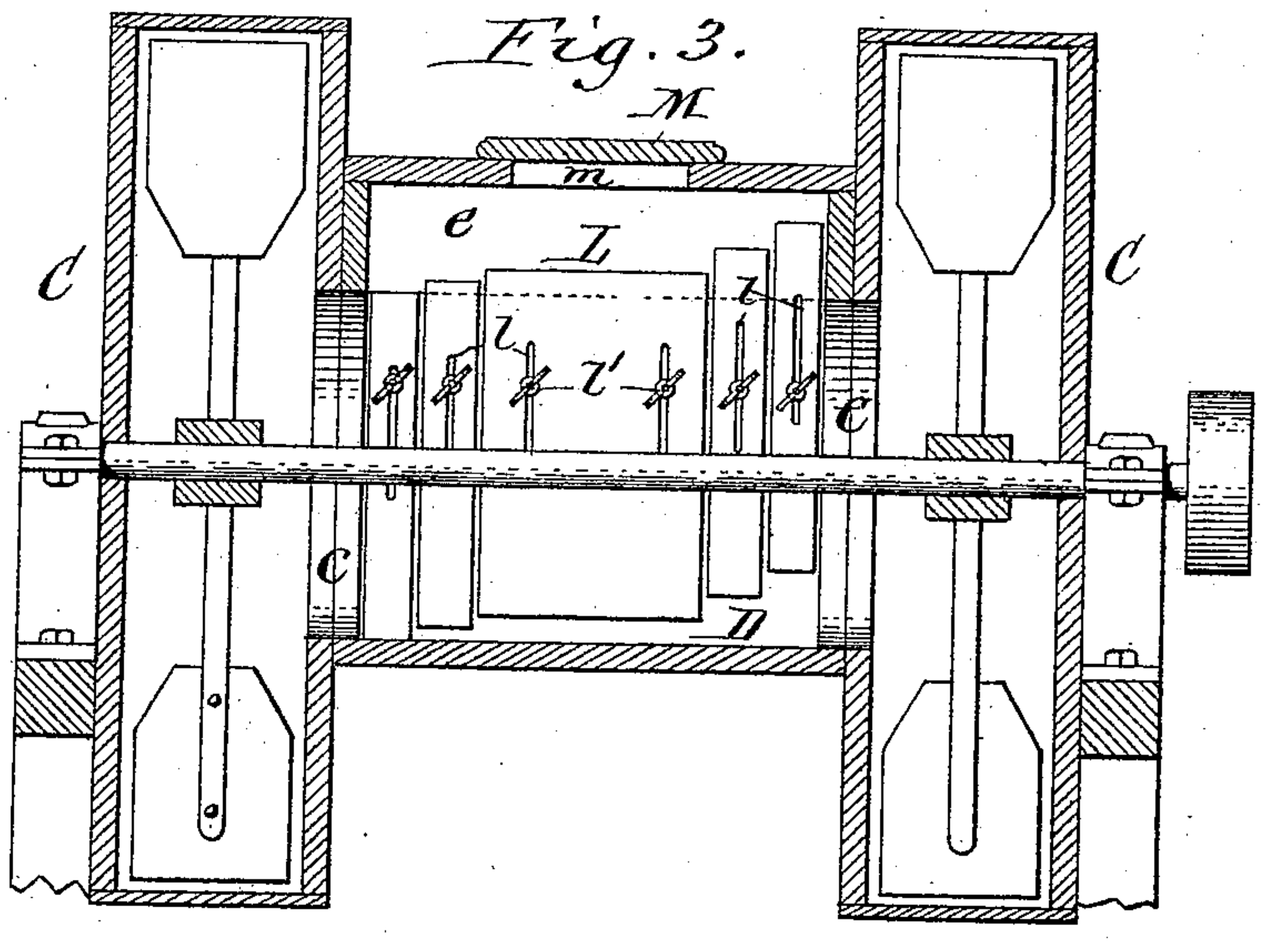


Fig. 4.

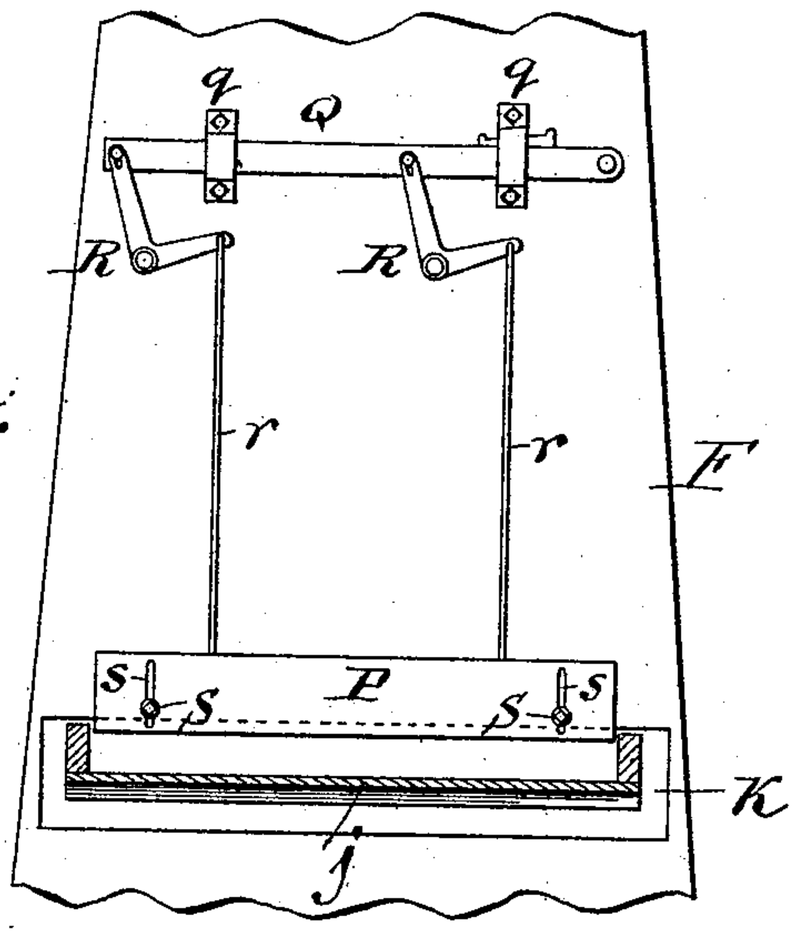
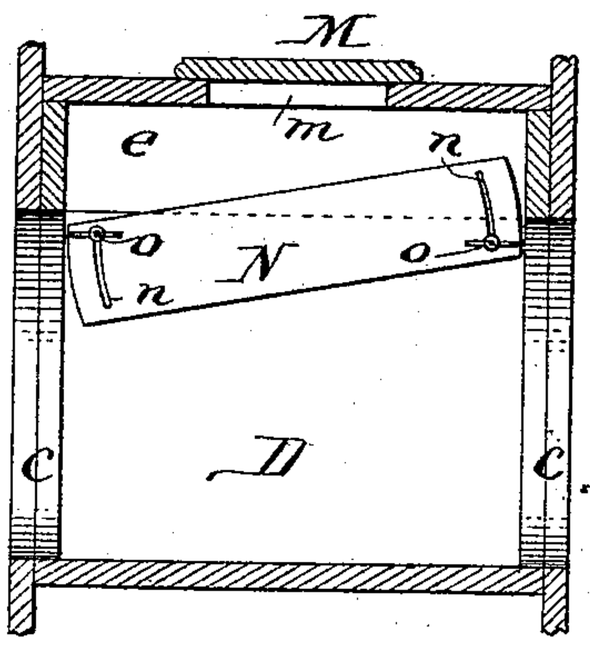


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM W. HUNTLEY, OF SILVER CREEK, NEW YORK.

SEPARATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 616,189, dated December 20, 1898.

Application filed March 10, 1897. Serial No. 626,757. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. HUNTLEY, a citizen of the United States, residing at Silver Creek, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Separating-Machines, of which the following is a specification.

This invention relates to that class of separating-machines which are employed for operating upon grain and other materials or substances and which contain one or more fans by which an air-current is drawn through a separating wind-trunk, through which air-current the grain or other material descends by gravity and by which the light impurities are removed. It is often the case that the strength of the air-current differs in different portions of the air-trunk across the width thereof—that is to say, sometimes the air-current is stronger on one side of the air-trunk than on the other and sometimes it is stronger in the middle of the air-trunk than at the sides.

One object of my invention is to provide the air-passage leading to the fan with a valve by which the strength of the air-current can be regulated across the width of the separating air trunk or leg.

Another object of my invention is to provide the machine with means for regulating or equalizing the depth of the stream or layer of material which flows into the separating air trunk or leg and excluding the air from the upper part of the opening through which the material enters the air-trunk.

In the accompanying drawings, consisting of two sheets, Figure 1 is a longitudinal sectional elevation of a grain-separator provided with my improvements. Fig. 2 is a horizontal longitudinal section in line 2 2, Fig. 1. Fig. 3 is a vertical cross-section in line 3 3, Fig. 1. Fig. 4 is a vertical cross-section in line 4 4, Fig. 1, looking rearward. Fig. 5 is a vertical cross-section through the suction-chamber between the eyes of the fans, showing a modified construction of the valve.

Like letters of reference refer to like parts in the several figures.

A represents the feed-hopper, which receives the grain, and B the preliminary air-trunk, into which the grain passes from the feed-hopper through an opening *a*.

C C represent two fans having their eyes *c* arranged on opposite sides of and communicating with an exhaust-chamber D, which is arranged between the fans.

E represents the preliminary chess-hopper, which communicates at its inlet with the upper end of the preliminary air-trunk B and at its outlet by an opening *e* with the exhaust-chamber D.

F represents the final air-trunk, and G the final chess-hopper, which is arranged in a similar manner between the final air-trunk F and the exhaust-chamber and communicates with the latter by an opening *g*.

H represents the shaking frame or shoe, which is arranged lengthwise in the frame I of the machine and below the preliminary air-trunk and the chess-hoppers and in front of the final air-trunk. This shaking-frame contains the usual preliminary separating-screen *h* and the main separating-screens I' J and terminates at its rear end in tail-board *j*, which receives the grain or other material to be delivered to the final air-trunk through an opening *k* in the front wall of the air-trunk. All of these parts may be of any old and well-known construction and arrangement.

L represents a valve composed of a series of independently-adjustable sections arranged side by side in each of the openings *e* and *g*, leading from the chess-hoppers to the exhaust-chamber. Each of the valve-sections in the same set or series is adjustable independently of the other sections, so that the opening which is controlled by each valve can be obstructed by means of these sections differently in different parts of the opening across the width thereof. For instance, the opening may be closed to a greater extent on one side than on the other, as shown in Fig. 3, or it may be closed at both sides more than at the middle, as may be necessary to produce an air-current of equal strength across the width of the separating air-trunk. As shown, each of the valve-sections is provided with a vertical slot *l*, through which passes a clamping-screw *l'* into the adjacent wall of the exhaust-chamber, and whereby each valve-section can be individually adjusted and secured in its adjusted position. The top of the exhaust-chamber is provided with an opening *m*, through which access can be had to the valves

and which is closed by a cover M. A somewhat inferior arrangement for the same purpose is shown in Fig. 5, in which a solid or continuous valve N is arranged across the opening and provided near each end with a curved slot *n*, through which passes a clamping-screw *o*, so that one end of the valve can be raised and the other lowered, as may be necessary to equalize the strength of the air-current across the separating air-trunk.

P represents a horizontal gate or slide, which is arranged transversely above the tail-board *j* of the shaking-separator on the front side of the final air-trunk and above the opening *k* in the same, into which opening the tail-board projects. This slide can be raised and lowered and is so adjusted as to rest on the stream of grain or other material which flows over the tail-board into the air-trunk. This slide equalizes the thickness of this stream of material across the tail-board and also prevents an air-current from being drawn into the air-trunk through the opening *k* above such stream, thereby increasing the strength of the air-current, which is drawn into this opening below the tail-board. This slide is adjusted up and down by a transverse sliding bar Q, mounted in guides *q*, which are secured to the front side of the final air-trunk, and elbow-levers R, having their slotted upper arms connected with said bar and their lower arms connected by rods *r*, extending downwardly from the elbow-levers to the slide. The latter is secured in its adjusted position by clamping-screws S, passing through vertical slots *s* in the slide into the front wall of the air-trunk.

I claim as my invention—

1. The combination with an upright separating air-trunk provided in its lower portion with a transverse inlet through which the material enters in a stream crosswise of the air-trunk, and a fan having its eye connected with the upper portion of the air-trunk by an air-passage, of a valve arranged across said passage and made independently adjustable at either end, whereby the passage can be contracted at either side independently, as may be necessary to equalize the strength of the air-current across the width of the air-trunk, substantially as set forth.

2. The combination with an upright separating air-trunk provided with a transverse inlet through which the material enters in a stream crosswise of the air-trunk and a fan having its eye connected with the upper portion of the air-trunk by an air-passage, of a valve arranged across said passage and composed of independently-adjustable sections arranged side by side in the same plane, substantially as set forth.

Witness my hand this 6th day of March, 1897.

WILLIAM W. HUNTLEY.

Witnesses:

L. R. SNOW,

W. A. CHAPMAN.