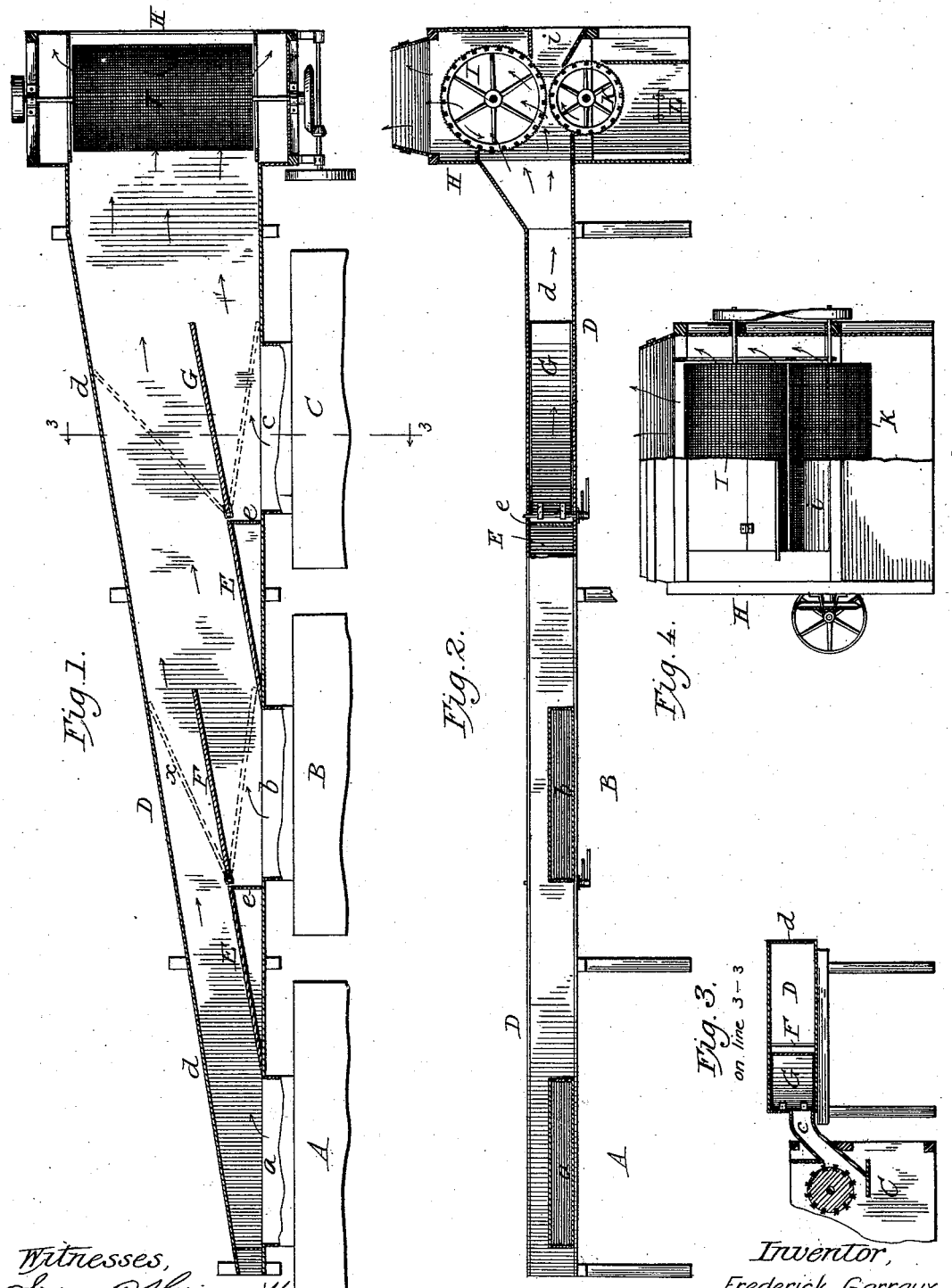
(No Model.)

F. GARRAUX.

COTTON CONDENSER AND FLUE.

No. 491,013. Patented Jan. 31, 1893.



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UNITED STATES PATENT OFFICE.

FREDERICK GARRAUX, OF ATLANTA, GEORGIA, ASSIGNOR TO THE WINSHIP MACHINE COMPANY, OF SAME PLACE.

COTTON CONDENSER AND FLUE.

SPECIFICATION forming part of Letters Patent No. 491,013, dated January 31, 1893.

Application filed September 26, 1892. Serial No. 446,931. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK GARRAUX, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Cotton Condensers and Flues, of which the following is a specification.

The object of my invention is to provide improved means for conveying lint cotton from a plurality of gins to a single condenser, and to so form the condenser that it shall provide a sufficient condensing surface and shall yet deliver the cotton in a compact, firm bat. I so organize the apparatus for conveying the lint cotton to the condenser that any number of gins may be connected with a main flue, and the entrances of the gins to the flue are guarded in such manner that the air currents passing through them do not interfere with the air currents in the main flue or trunk, but the currents of air with the lint cotton are directed as soon as they leave the gins, toward the condenser. By my improved organization, back pressure and clogging of the gins is avoided.

In the accompanying drawings illustrating the invention, Figure 1 is a view partly in plan and partly in section of the improved apparatus. Fig. 2 is a view partly in elevation and partly in section of the same. Fig. 3 is a section on the line 3—3 of Figs. 1 and 2. Fig. 4 is a view partly in section and partly in end elevation of the condenser.

A, B, C, indicate a series of cotton gins which may be of any construction.

D, indicates a chute, trunk or flue, with which the gins are connected by openings or flues *a b c*. The flue D, may be of a uniform depth, as indicated in Fig. 2, but preferably its width gradually increases from its rear end to that end next the condenser, as shown in Fig. 1. Between the openings *a b* and *b c*, are secured inclined boards E, which are arranged parallel with the rear piece *d*, of the flue D, and adjacent to the openings *b* and *c*, short boards *e* connect the inclined boards E, with the front of the flue. At the rear ends of the boards E, are hinged gates or deflectors F, G. These gates or deflectors perform several functions. The gate F, for instance, may be so arranged that it shall close the entrance *b*, to the gin B, so that this gin cannot deliver any cotton to the condenser. In the position shown in full lines in the drawings, cotton may be delivered from the gin B, as well as from the gin A, but if the gate F, be moved to the position shown by dotted lines *x*, the gin A, will be cut off, while the gin B, is free to deliver cotton to the trunk. The gate G, may be operated in a similar way to cut off the gin C, to allow all three gins to operate, or to cut off the gins A and B.

When all the gins are operating, and the gates are in the position shown by full lines in Fig. 1, they act as deflectors to regulate the air currents. As the cotton carried by a current of air passes out by the opening *b*, it first strikes the gate or deflector F, and then is directed toward the condenser. Were it not for this gate, the cotton would strike the opposite side *d*, of the chute, and this would cross the current of air and cotton coming from the gin A, and would prevent the free delivery of the cotton from the gin A, causing it to clog the ribs and saws thereof, and necessitating the stopping of the gin. By my improvements, however, the air and cotton from each gin is directed toward the condenser, and there are really a plurality of flues within the man flue, and separate flues lead from each gin, so that the air and cotton flow freely from the separate gins into the main flue and thence to the condenser.

Instead of arranging the condenser on a level with the gins, or having the chute or trunk on a uniform plane, as indicated, I may turn the end of the trunk upwardly at the condenser end thereof, or otherwise shape it to lead to the condenser wherever the latter is located.

The condenser H, is in most respects of ordinary construction. Each of the cylinders I and K, may be made in the usual manner, with open ends and outer surfaces of wire gauze, or other perforated material. The condenser casing has an opening at the top, and the bottom of the casing has a door L, through which sand and the like may be withdrawn. The shafts of the two cylinders are driven at the same angular speed in the direction indicated by the arrows to draw the cotton into their bite and pass it through the opening *i*,

in the casing. As the shafts of the cylinders are revolved at the same speed and as the cylinder K, is much smaller than the cylinder I, the surface of the cylinder I, will move faster than the surface of the cylinder K. By this arrangement, the cylinder I, affords a large condensing surface to the cotton, and the cylinder K, retards the progress of the cotton by moving relatively slowly, and thus a thick, compact bat is formed.

I claim as my invention,—

1. The combination of a main flue, trunk or conduit, a condenser at one end thereof, a series of cotton gins each having a flue at its exit end communicating with the main flue, and a gate or deflector arranged in the main flue opposite one of the gin flues, and of such length as to either close the opening of the gin flue into the main flue or to close the main flue opposite the gin flue.

2. A condenser comprising two cylinders having perforated or wire gauze surfaces, one of said cylinders being smaller in diameter than the other, means for driving the shafts of the cylinders at the same speed, so that the surface of the smaller cylinder shall move more slowly than the surface of the larger cylinder, as the cotton passes between them, the construction, organization and operation being such that the larger cylinder affords a large condensing surface to the cotton, and the smaller cylinder retards the progress of the cotton by moving relatively slowly, and thus forms a thick, compact bat.

In testimony whereof I have hereunto subscribed my name.

FREDERICK GARRAUX.

Witnesses:

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