

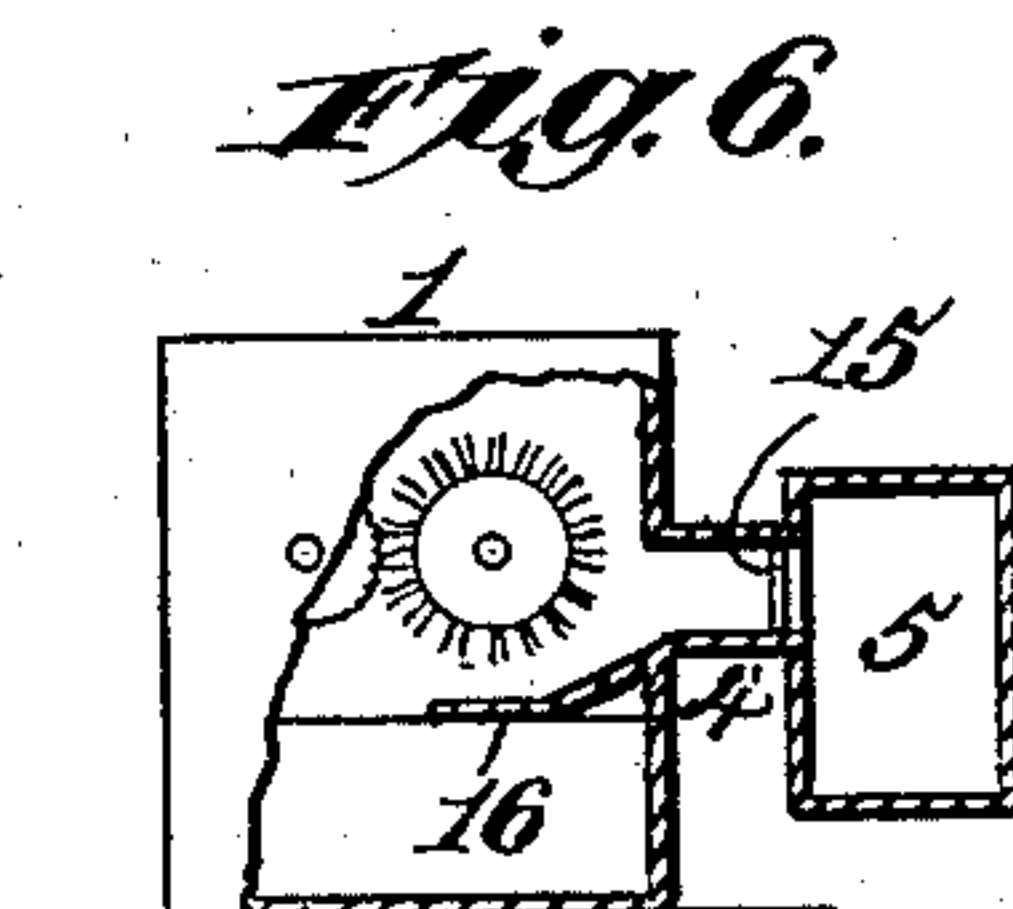
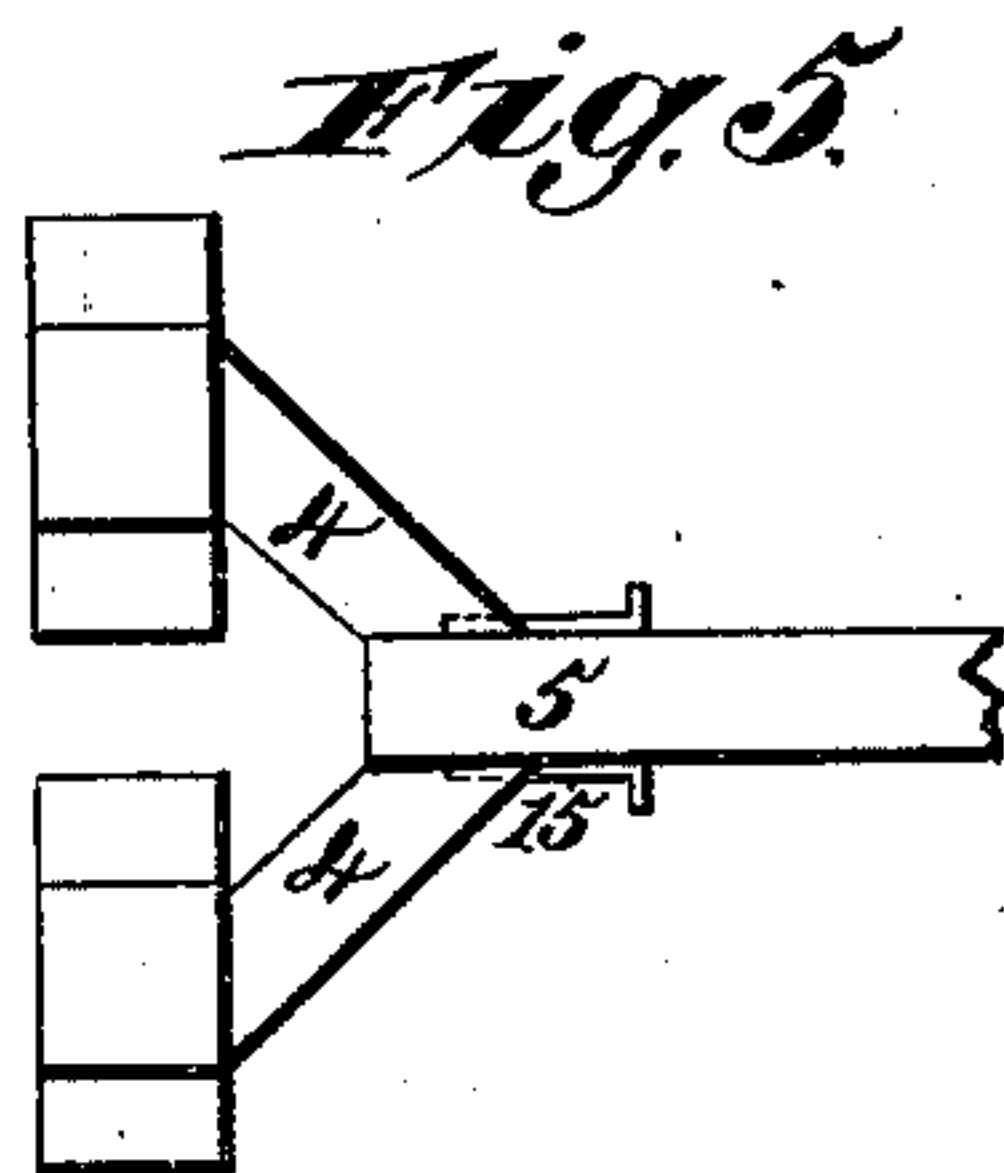
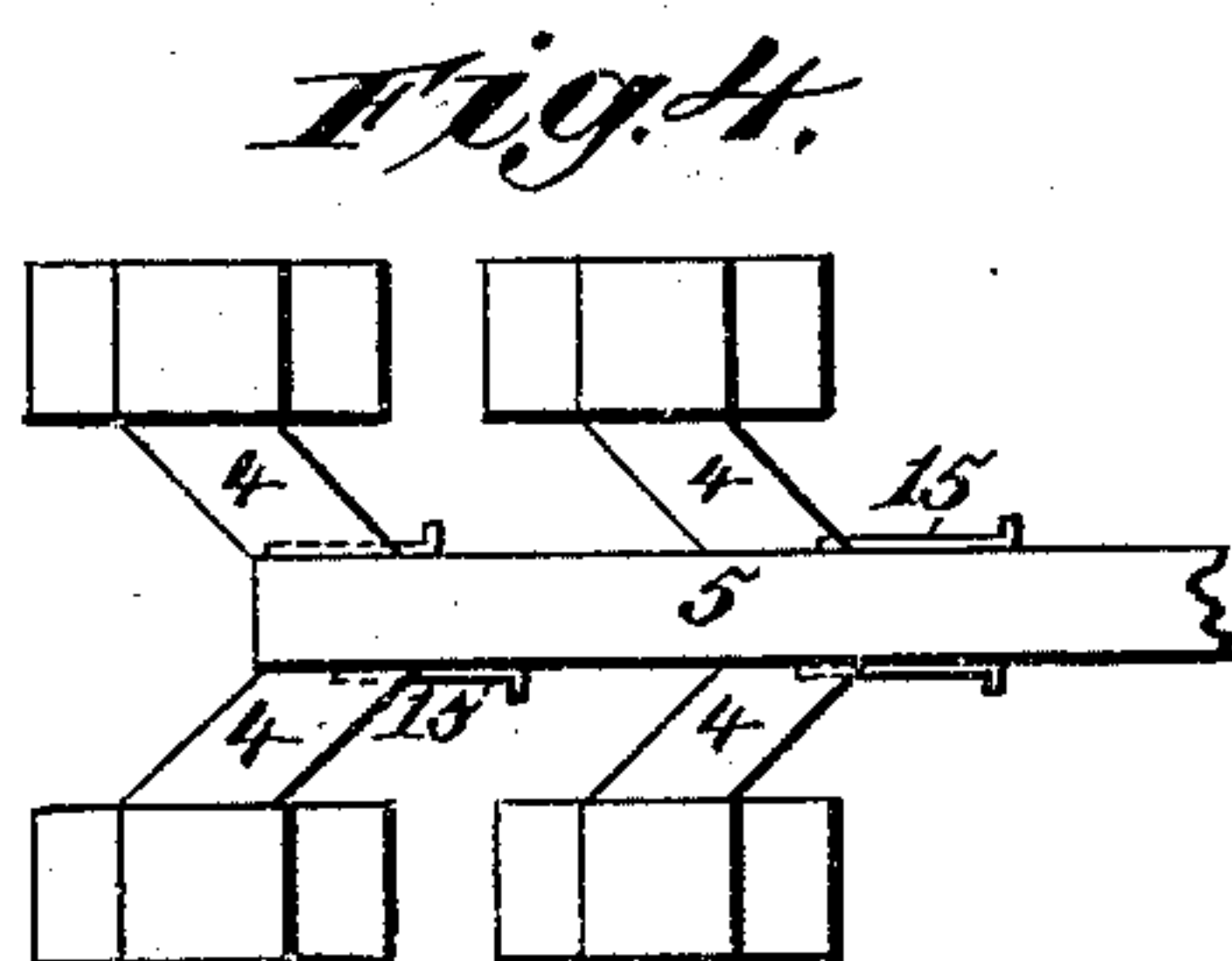
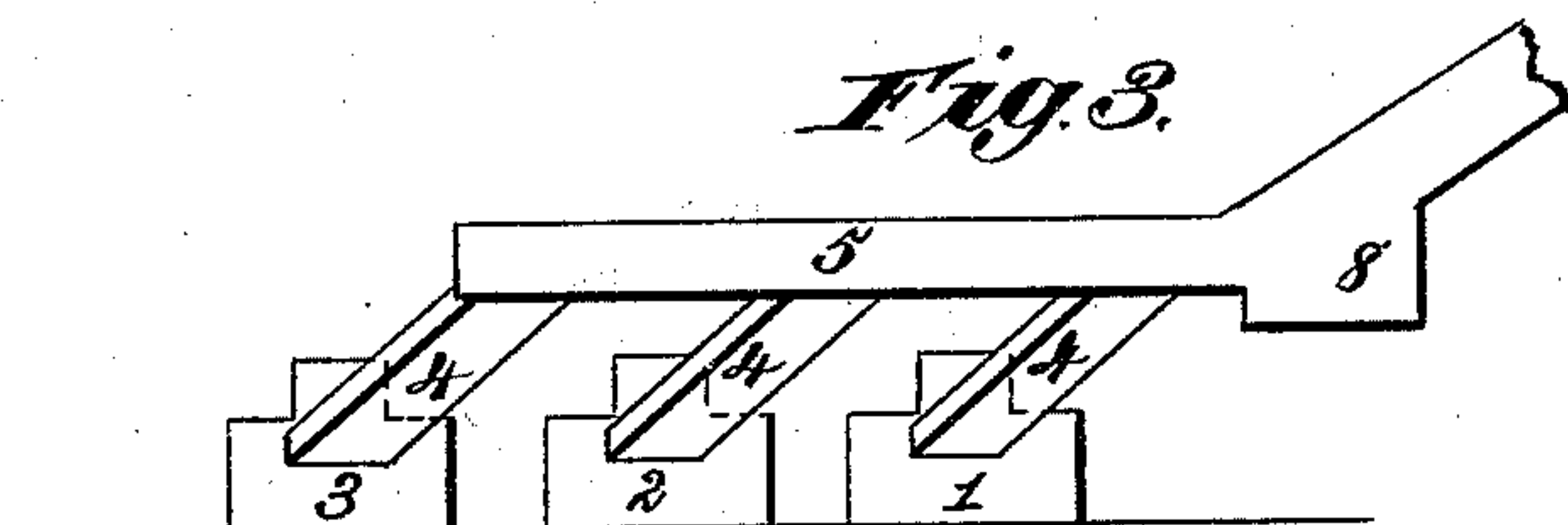
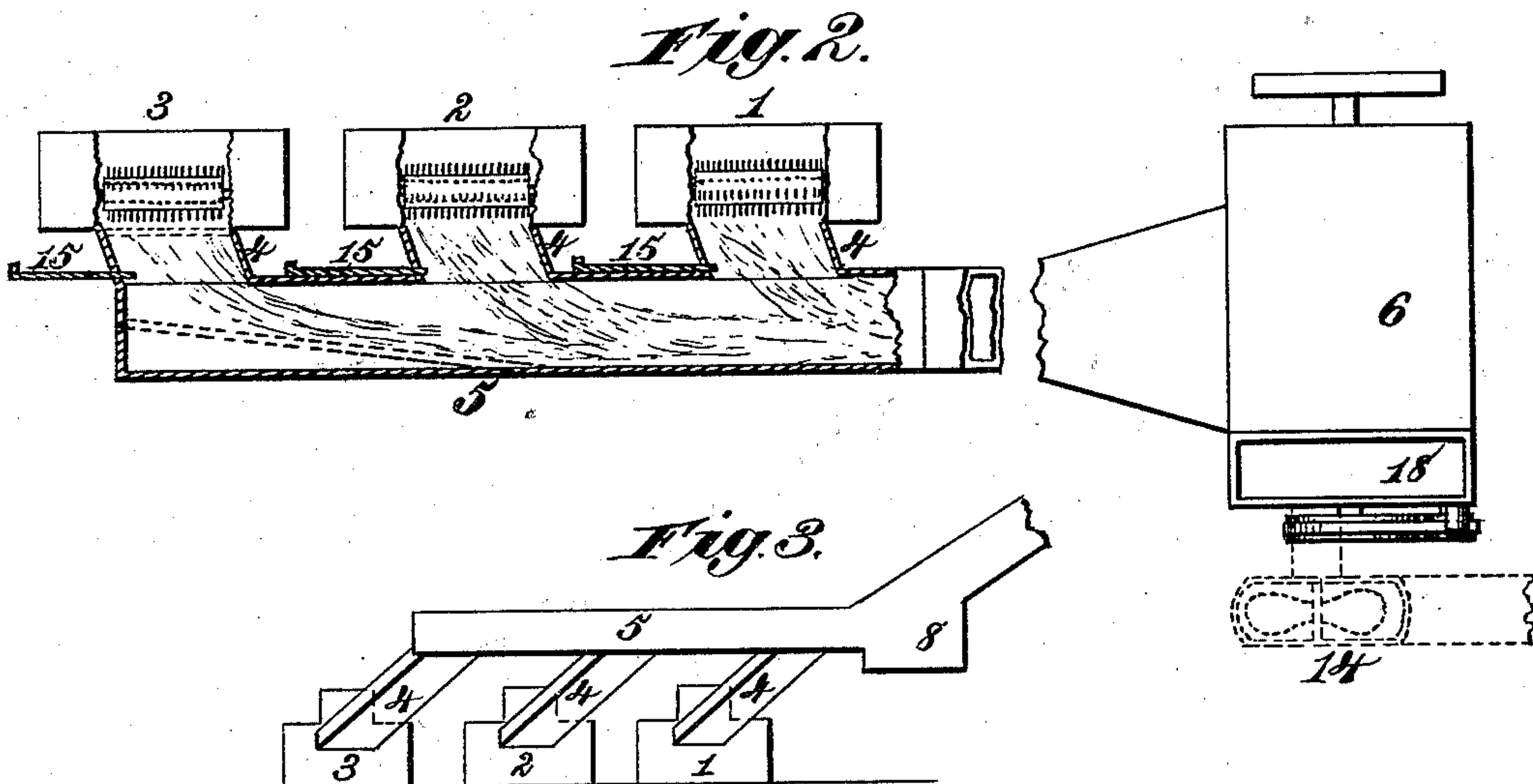
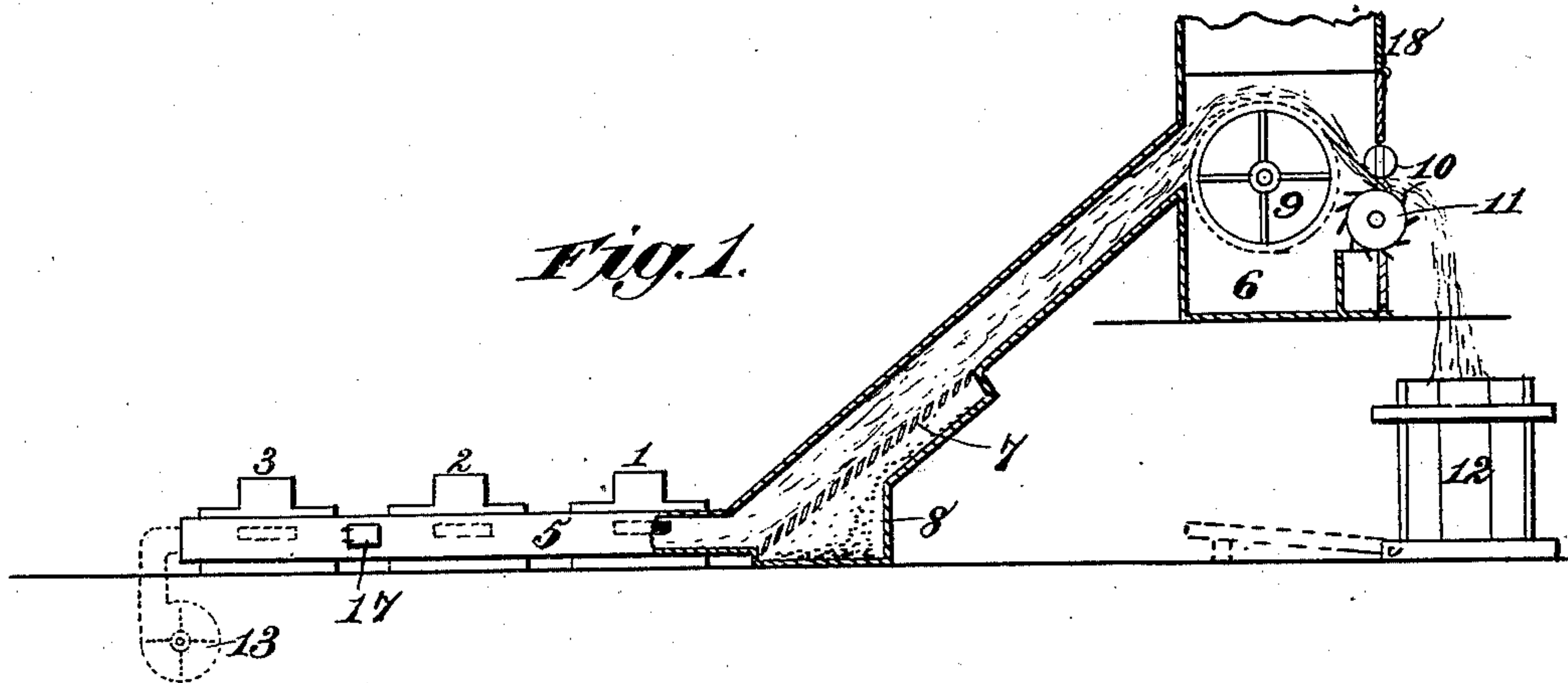
(No Model.)

R. S. MUNGER.

MECHANISM FOR HANDLING LINT COTTON.

No. 308,787.

Patented Dec. 2, 1884.



Witnesses.
Robert Everett
J. A. Rutherford

Inventor.
Robert S. Munger.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

ROBERT S. MUNGER, OF MEXIA, TEXAS.

MECHANISM FOR HANDLING LINT-COTTON.

SPECIFICATION forming part of Letters Patent No. 308,787, dated December 2, 1884.

Application filed May 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. MUNGER, a citizen of the United States, residing at Mexia, Texas, have invented new and useful Improvements in Mechanism for Handling Lint-Cotton, of which the following is a specification.

My invention relates to mechanism for handling lint-cotton, and has for its object to avoid the accumulation of dust and light particles of fiber in the atmosphere of the gin-house, to greatly reduce the dangers of destructive conflagrations in ginning establishments, to avoid the repeated handling of the cotton between the gins and the press, and to secure a more perfect separation from the cotton of dust and other foreign substances. These objects I accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, illustrating my invention, in which—

Figure 1 is a view partly in side elevation and partly in vertical section. Fig. 2 is a view partly in plan and partly in horizontal section. Fig. 3 is a view in side elevation showing a modification. Figs. 4 and 5 are plan views showing further modifications in the construction of said mechanism. Fig. 6 is a transverse section of the flue and a partial section of one of the communicating gins shown in Fig. 1.

In the said drawings, the reference-numbers 1, 2, and 3 indicate separate cotton-gins, each of the usual and well-known construction, and each communicating by means of a gin-flue, 4, with a main or common flue, 5, which leads to a single condenser, 6. The latter may be of the ordinary construction. This condenser, which may be located at any desirable point, is so arranged relatively to the press, or to a suitable receptacle intermediate between it and the press, that the cotton passing from the several gins through the common flue and thence into the common condenser may be either delivered or conveyed directly to said press or receptacle without handling. The flue 5 may be provided with a slatted section, 7, over which the cotton is driven as it passes to the condenser, a chamber, 8, being provided below the slats to receive the dust, sand, and other foreign matters separated from the lint. The slats forming this portion of the

bottom of the flue may be of any suitable form—such, for example, as that shown in the drawings, of half-round bars, perforated sheet metal, or any other construction or material adapted for the purpose. The cotton passes from the common flue 5 into the condenser 6, and is carried over the drum 9 to the condensing-rolls 10 and 11. From the latter it is delivered to a suitable receptacle, or, if it is desired, directly to the press, which is represented by the reference-number 12 as being situated within delivery distance from the condenser. It is evident, however, that should circumstances require, the cotton coming from the condenser might be conveyed by a carrier-belt from the point where it leaves the condenser directly to the press, or to any suitable receptacle, without in any manner departing from my invention. Ordinarily the draft created by the stripping-brushes in the several separate gins will be sufficient to drive the cotton through the gin-flues, and thence through the common flue 5 to the condenser. Should it, however, be desirable to create a more powerful current of air, a blower, 13, may be placed at the end of the flue, as shown in Fig. 1, or an exhaust-fan, 14, may be attached to the condenser, as shown in Fig. 2.

The location of the condenser 6 may be varied to suit the circumstances of each case. For example, it may be elevated, as shown in Fig. 1, to deliver the cotton directly to the press, or it may be placed upon the floor of the gin-house and the cotton be received upon a carrier-belt, by which it is carried to the press or to any other suitable receptacle.

Each of the gins communicating with the common flue is provided with a valve, 15, by which the communication between any individual gin and the main or common flue may be closed without disturbing or interrupting the operation of any one or all of the remaining gins in the group.

The gin-flues 4, instead of being constructed and arranged in the manner shown in Figs. 1 and 2, may be inclined upward, as shown in Fig. 3; or, again, the gins may be placed upon both sides of the common flue 5, as shown in Fig. 4. In each gin the mote-board 16 (seen in Fig. 6) is made adjustable in the ordinary manner.

Heretofore and prior to my invention it has been customary to deliver the cotton from each gin through a gin-flue to a separate condenser, it being thence conveyed by hand to the press or to a suitable receptacle. This mode of operation gave rise to serious objections. It not only multiplied the space required for the accommodation of the mechanism, and thereby caused a proportionate increase in the size and cost of the establishment, but it involved also a large increase in the initial cost of the mechanism and a much larger number of operatives, since the cotton delivered from each separate condenser had to be handled between those points and the press or other final receptacle. Moreover, the dust and the particles of light fiber which escaped constantly from each condenser accumulated in the ginning-room, and were so injurious to health as to reduce the average life-time of operatives constantly employed therein to a period but little in excess of that in the most deadly of the industrial arts. But what is, in a patentable sense, of still more importance is the fact that the passage from the separate gins to the separate condensers was so short as to prevent a complete separation of the dust and other impurities. Moreover, an accidental fire would produce almost instantaneously so complete and fierce a conflagration, owing to the general dissemination of the cotton lint throughout the ginning-room, as to insure the destruction of the entire establishment. It has been claimed, also, by the cotton-spinners that unless a sufficient interval of time is allowed for the passage of the cotton from the gins to the condenser the product of the latter will be so largely composed of "naps" as to seriously injure its quality. The reason for this is said to be that as the lint is removed from the saw by the stripping-brush it has a V shape, the two branches of the letter representing the fiber lying upon each side of the saw-tooth. This fiber possesses enough elasticity to enable it to partially straighten out, provided sufficient time is given; but if the lint is blown directly from the gin to a condenser standing close by it there will be practically no sufficient opportunity allowed for this straightening of the fibers. When two gins only are used, they may be arranged both on one side of the common flue 5, or they may be arranged in the manner shown in Fig. 5. The matter of arranging the gins relatively to this flue may be adapted to the space of the gin-room and the location of the press. If desirable, the whole of the lower portion of the flue may be slatted, or the slats may cover a portion thereof only, as shown.

Usually in handling cotton the lint which escaped from each condenser formed an accumulating body of highly-inflammable material, which is not only disseminated through the room and floats in the atmosphere, but also accumulates in quantity in as many different spots as there are separate condensers.

If a spark of fire caught in one portion of the room it would spread or flash almost instantaneously to every part; and it is well known by those familiar with ginning establishments that there are no fires which involve such speedy and complete destruction as those occurring in the gin-room. By my invention, however, all escape of dust or fiber is avoided, and as the cotton from all the gins is delivered from a single condenser, a fire, should it occur, could be easily and quickly extinguished. Moreover, by avoiding the constant escape of dust and lint from each of a number of condensers, I am able to keep the air of the gin-room pure, and avoid those injuries to the health of the operatives which arise from the daily inhalation of such impurities. Again, as the whole quantity of cotton from the entire group of gins is carried through a single flue and delivered from a single condenser, it is not necessary to employ hands to carry the cotton from a number of separate condensers to the press or other final receptacle; and I thus obtain a considerable economy in the current expenses. The economy in space for the machinery and in the initial cost of the "plant" is too evident to require description.

My invention may be used with special advantage in cotton-seed-oil mills for reginning. In these establishments the number of linters used is usually greater than the number of gins in ginning-houses, and as the lint is finer and more dusty, and as its quantity is much less than in ginning, the use of separate condensers is entirely unnecessary. Moreover, as these mills are in most cases located in cities, the importance of economy in space is enhanced.

A door, 17, may be provided in the side of the main flue, to enable the operator to clean the interior. A glass may also be placed either in said door or in any other part or parts of the flue to permit inspection of the interior.

The flue may, if desired, be contracted at the end opposite the last gin, as shown in broken lines in Fig. 2, since an equal space is not needed at this point.

The dust received by the condenser may be conveniently carried off by a dust-flue, 18, and discharged either above or below.

Having thus described my invention, what I claim is—

1. An apparatus for handling lint-cotton, comprising a group of two, three, or more gins, a main or common flue with which each gin communicates, a single condenser at the end of said flue, and a press or other receptacle within a suitable distance of said condenser, substantially as described.

2. An apparatus for handling lint-cotton, comprising a series of gins, a flue with which each gin communicates, a condenser at the end of the flue, a receptacle for receiving the cotton from the condenser, and a slatted section in the bottom of the flue between the

condenser and the gins, substantially as described.

3. An apparatus for handling lint-cotton, comprising a series of gins, each having a gin-
5 flue, a main flue with which the gin-flues communicate, and a condenser receiving the cotton from the main flue, substantially as described.

4. In an apparatus for handling lint-cotton,
10 the combination of a series of gins, each hav-

ing a gin-flue, a main flue with which the gin-flues communicate, and valves for closing communication between the gin-flues and main flue, substantially as described.

In testimony whereof I affix my signature in 15
presence of two witnesses.

ROBERT S. MUNGER.

Witnesses:

JAMES L. NORRIS,

JOS. L. COOMBS.