

No. 855,020.

PATENTED MAY 28, 1907.

B. & D. SAMUELS.
RAILWAY SIGNAL.

APPLICATION FILED AUG. 24, 1903.

2 SHEETS—SHEET 1.

Fig. 2.

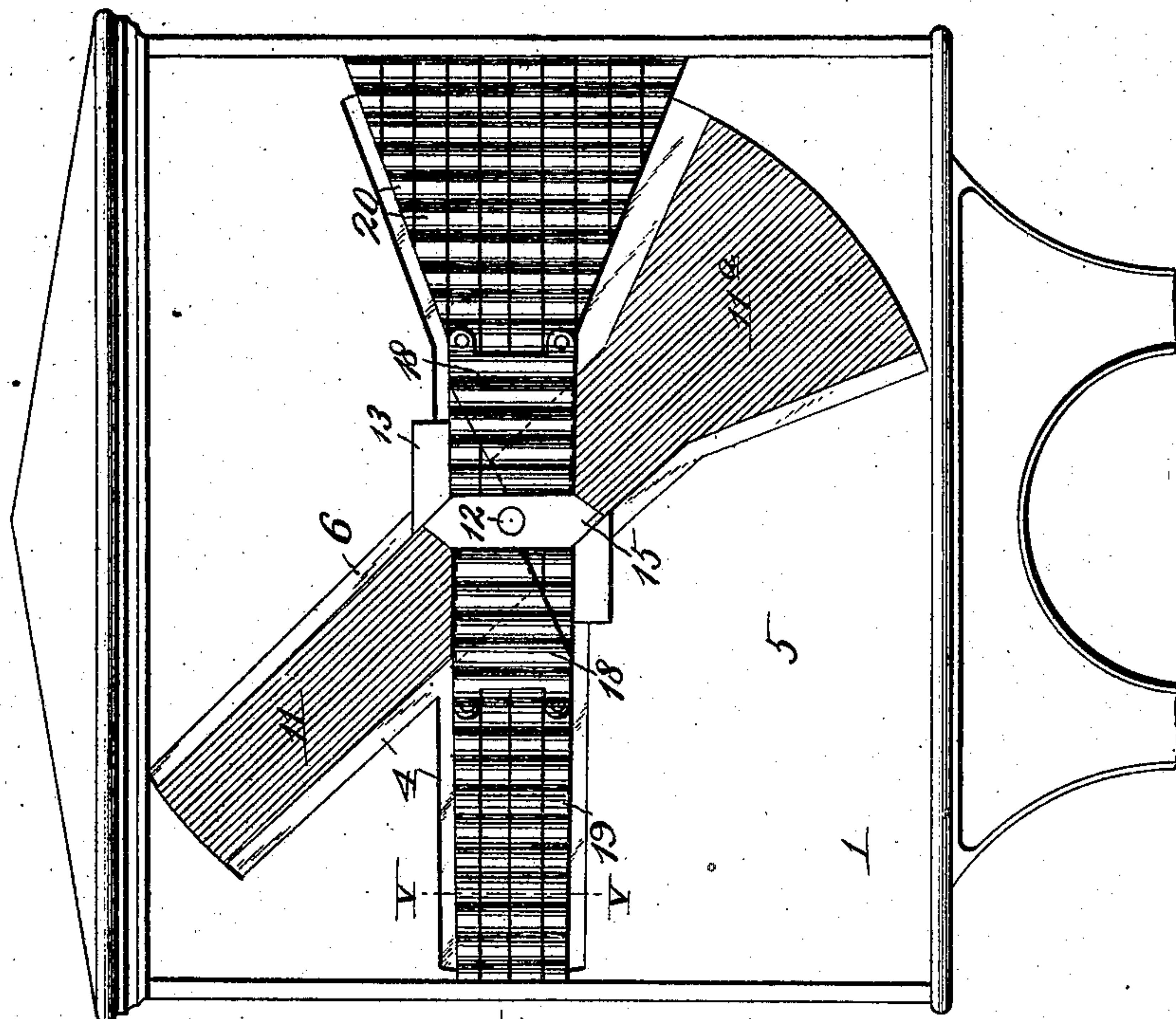
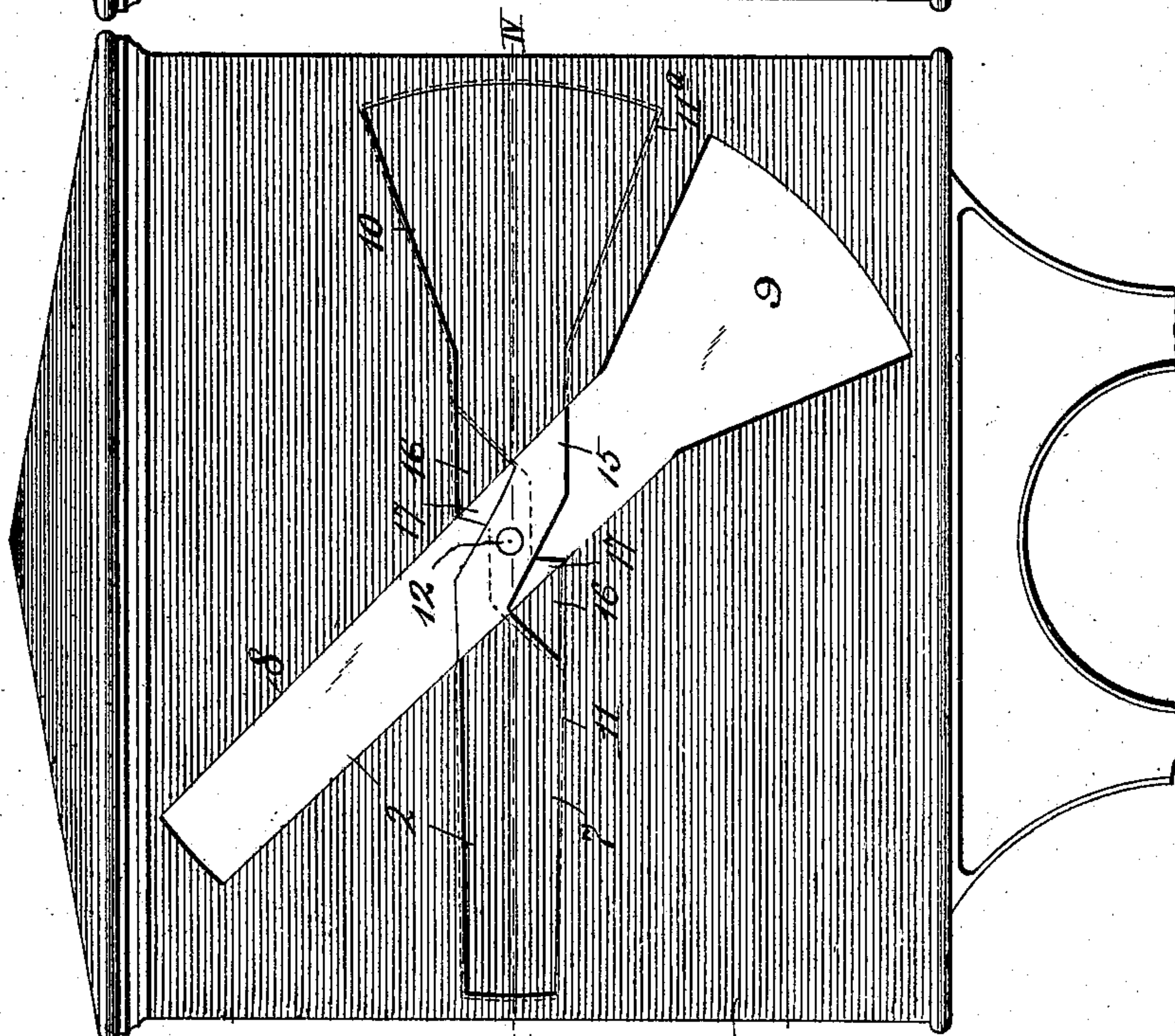


Fig. 1.



Witnesses:

W. A. Lingle.

L. A. Hickey.

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Barney Samuels & David Samuels

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2 SHEETS—SHEET 2.

Fig. 8.

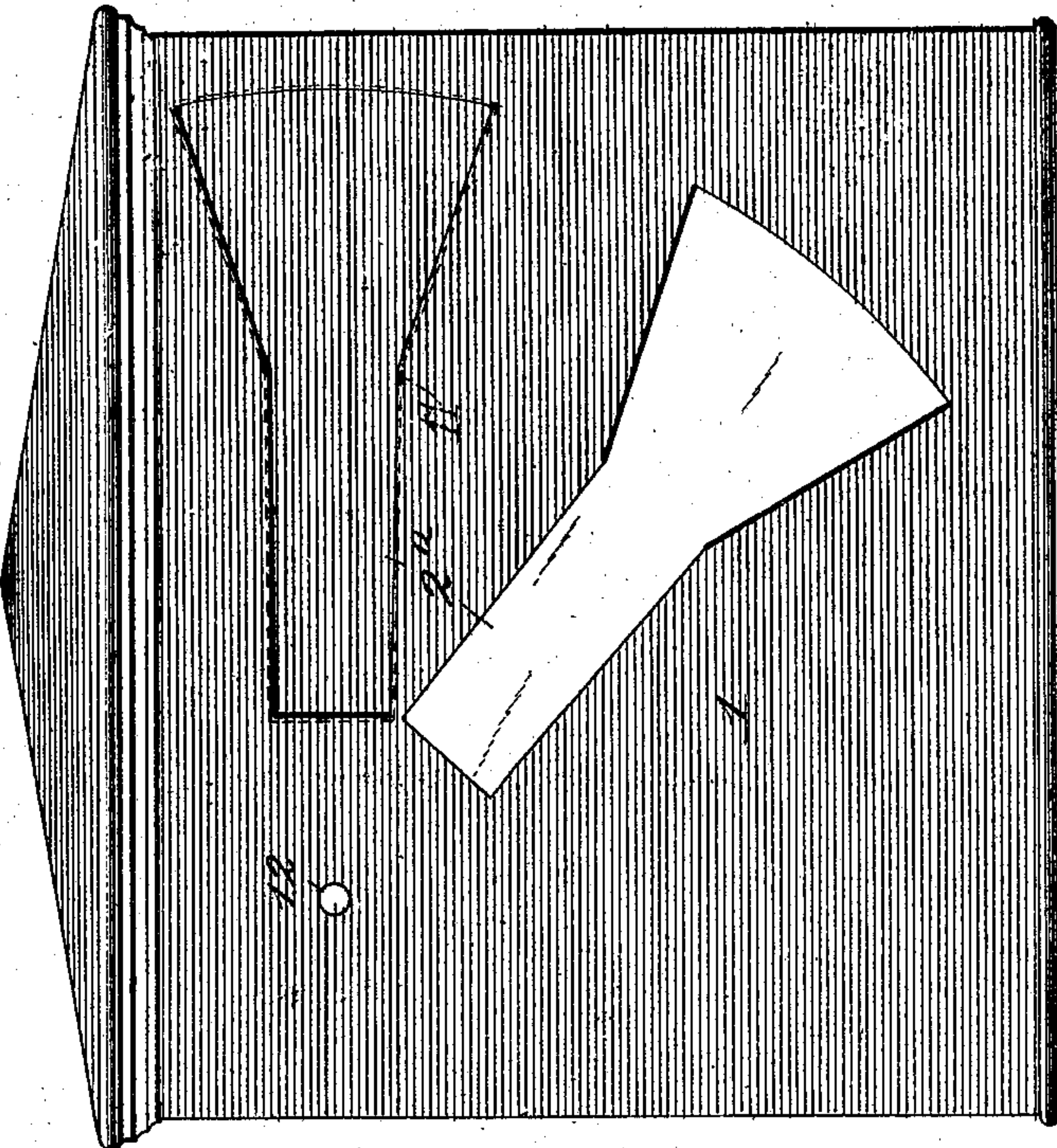
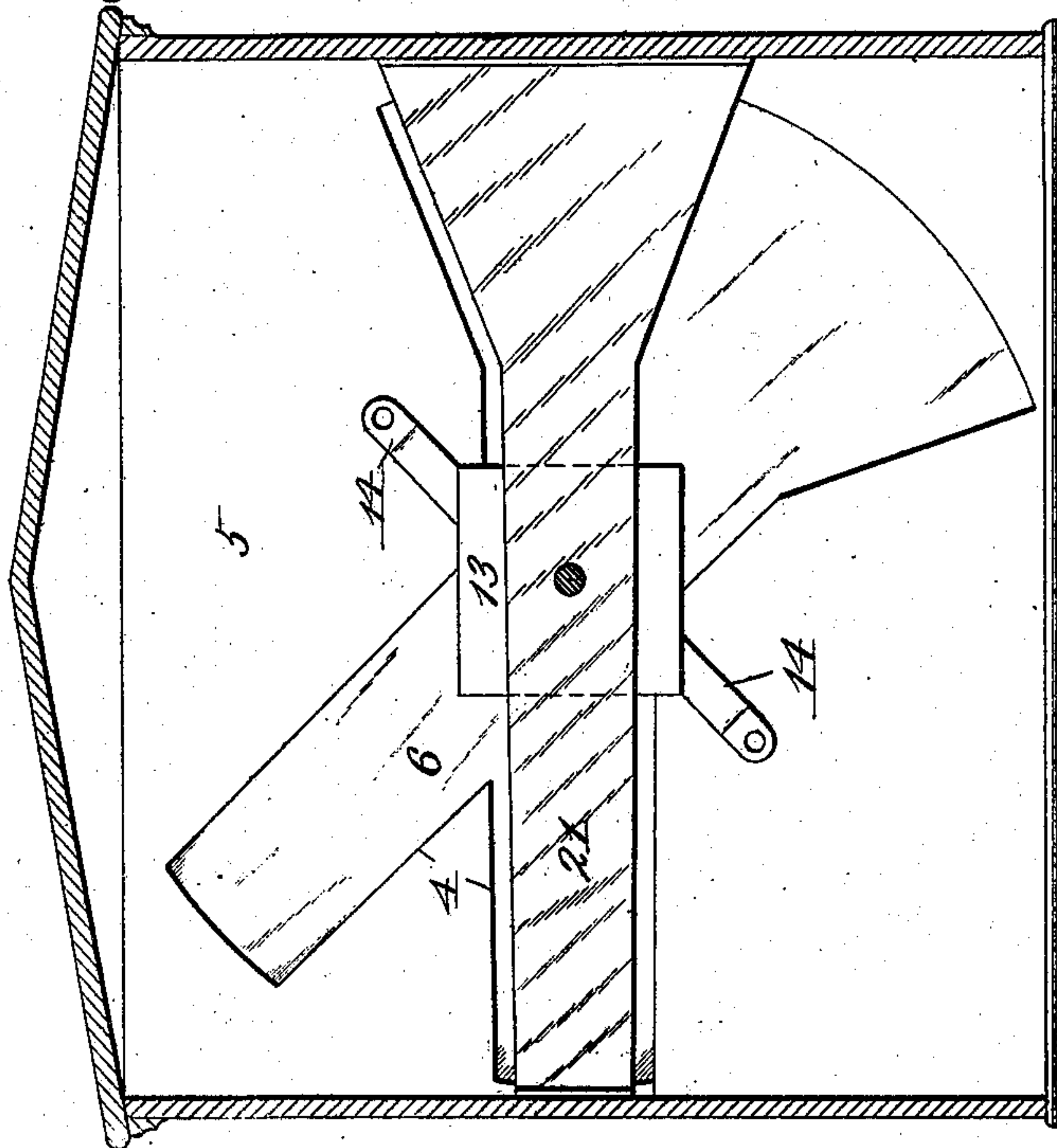


Fig. 3.



Witnesses:

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Fig. 6.

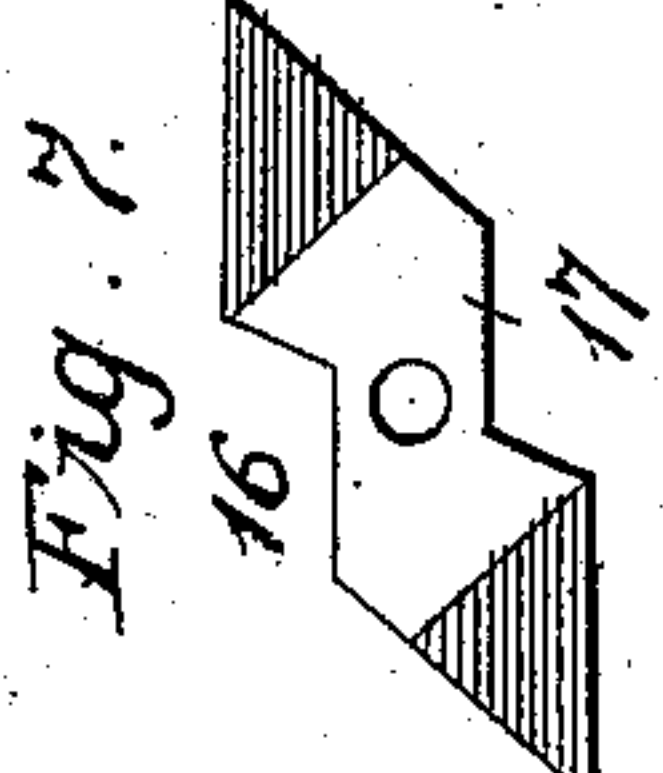
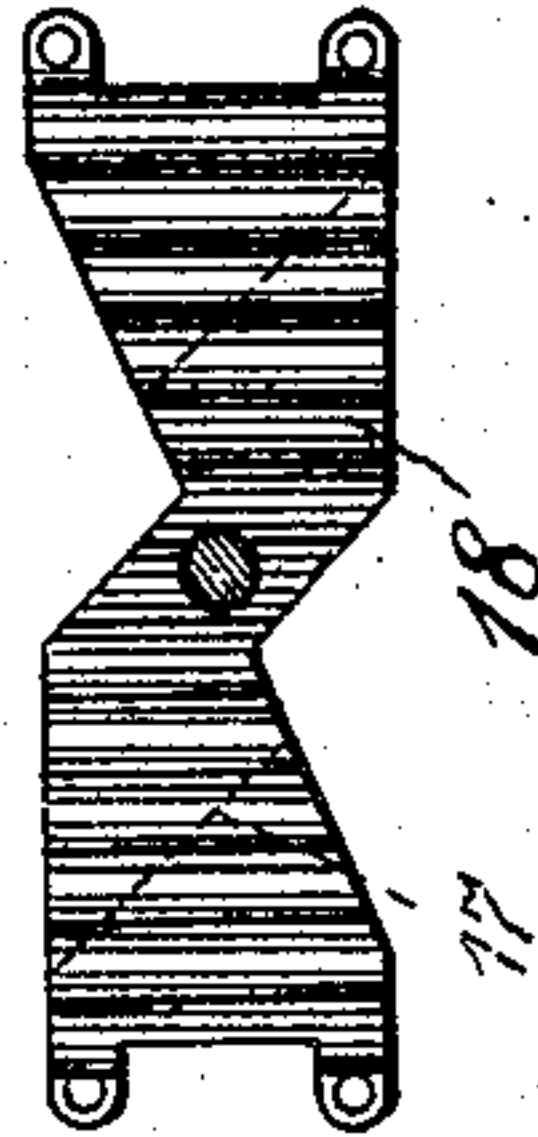


Fig. 5.

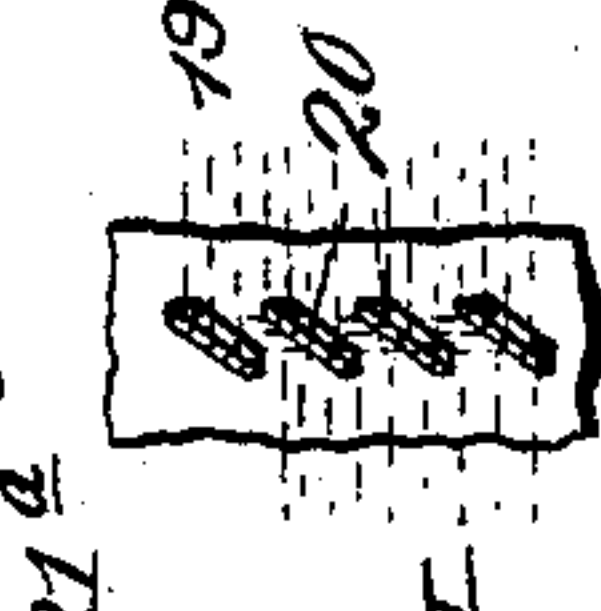
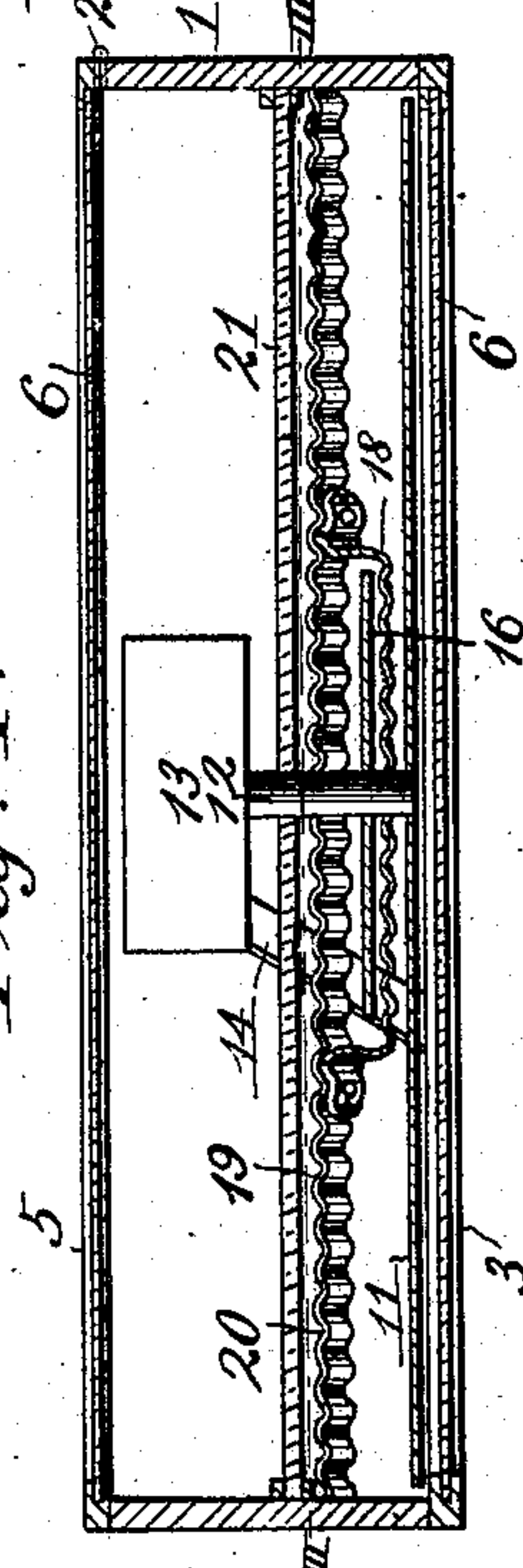


Fig. 4.



UNITED STATES PATENT OFFICE.

BARNEY SAMUELS, OF ST. JOSEPH, MISSOURI, AND DAVID SAMUELS, OF
LEAVENWORTH, KANSAS.

RAILWAY-SIGNAL.

No. 855,020.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed August 24, 1903. Serial No. 170,518.

To all whom it may concern:

Be it known that we, BARNEY SAMUELS, a resident of St. Joseph, in the county of Buchanan and State of Missouri, and DAVID SAMUELS, a resident of Leavenworth, in the county of Leavenworth and State of Kansas, both citizens of the United States, have invented certain new and useful Improvements in Railway-Signals, of which the following is a specification.

Our invention relates to improvements in railway signals, and one of our objects is to provide a signal with colors to indicate "safety" and "danger."

A further object is to provide a signal showing two permanent positions indicating "danger" and "safety" so that accidents need not occur on account of colors fading and failing to give the proper signal.

The principal features of the invention reside in a suitable case having one or more openings arranged to indicate the "safety" and "danger" positions, and a blind arranged to alternately cover said positions so that both of them will not be exposed at the same time, and thus cause confusion.

The invention further consists in the peculiar arrangement, construction, and novel combination of parts hereinafter described and pointed out in the claims, and in order that it may be fully understood, reference will now be made to the accompanying drawings, in which,

Figure 1 represents a front elevation of our improved signal with the "safety" position exposed. Fig. 2 is a front elevation of the same with the front wall of the case removed, showing the blind for alternately closing the "safety" and "danger" positions, and also showing a reflector arranged in coincidence with the danger position for the purpose of increasing the sharpness or brilliancy of the color employed to indicate "danger." Fig. 3 is a vertical sectional view of the case taken on line III—III of Fig. 4, showing the colored glass which is arranged behind the reflector. Fig. 4 is a transverse section taken on line IV—IV of Fig. 1. Fig. 5 is a detail vertical cross section of the reflector taken on line V—V of Fig. 2. Fig. 6 is a de-

tail front elevation of a partition, and an auxiliary blind forming part of the invention. Fig. 7 is a detail view of the auxiliary blind. Fig. 8 is a modified form of a case having two openings instead of one to indicate the "safety" and "danger" positions.

In carrying out the invention we employ a suitable case 1 provided with an X-shaped opening 2 arranged at an angle of approximately 45 degrees, in its front wall 3, and a similar opening 4 in its rear wall 5, both of which openings are preferably closed by clear glass 6 for the exclusion of rain, dust, etc., which would prove injurious to the mechanism inclosed in the case.

The horizontal portion 7 of opening 2 is designed to indicate the "danger" position, while the inclined portion 8 shows the "safety" position, and in order that either of these positions may be seen distinctly at a considerable distance we enlarge them at one end as indicated by 9 and 10. Portions 7 and 8 of opening 2 are alternately closed by a main blind 11, of similar shape, rigidly mounted at its central portion upon the forward end of a horizontal shaft 12, which projects forwardly from and is adapted to be oscillated by a suitable motor 13 supported from the front wall of the case by arms 14. One end 11^a of the blind is enlarged to alternately cover the enlargements 9 and 10, and also to render said end heavier than the opposite end of the blind so the latter will automatically drop and expose the "danger" position should the motor get out of order. Blind 11 which is composed of opaque material is preferably painted the same color as the front wall of the case so that it will resemble the latter and form a contrast with the exposed position, causing the same to show with great distinctness at a distance. The blind is made narrow at its diagonal central portion 15, which is painted white so that when the "safety" position is exposed, as shown in Fig. 1, its middle portion will not be obscured to the same extent that it would if the blind was the same width from end to end, and its entire surface painted the same color as the front wall of the case.

In order to prevent the color indicating "danger" from showing above and below the white portion 15, when the "safety" position is exposed, we provide a small auxiliary blind 16, of peculiar shape, which is rigidly mounted on shaft 12 a short distance in the rear of main blind 11 and has its central portion 17 painted white to correspond with the white central portion 15, while its opposite ends are painted the same color as the face of the case to form a contrast with the exposed white portions 15 and 17 when the "safety" position is exposed.

18 designates a corrugated partition of peculiar shape interposed between auxiliary blind 16 and main blind 11 so that when the latter closes the "safety" position and exposes the "danger" position the auxiliary blind will disappear behind said partition to avoid obstructing the red or other color employed to indicate "danger." Partition 18 is painted the "danger" color so that when the latter is exposed its central portion will be obscured only by the narrow central portion of blind 11, as shown in Fig. 2. Partition 18 is secured at its opposite ends to the central portion of a corrugated reflector 19 of the same shape and arranged behind that part of opening 2 indicating the "danger" position and consists of a series of inclined plates 20, the lower edges of which extend slightly below the upper edges of the succeeding plates, so that light entering the case through the rear glass 6 will be reflected from the bright under surface of each plate down upon the upper surface of the plates below (as shown in Fig. 5) which are painted red or any other color employed to indicate "danger." The brightness of this color is increased by a plate of glass 21 of the same shape and color as the reflector and arranged in the rear of the latter so that light in passing through said glass will be cast upon the entire surface of the reflector and as the surface of the latter is corrugated the light reflected therefrom will be diffused over that portion of glass 6 not covered by the blinds and thus cause the exposed position to show with great distinctness.

Openings 2 and 4 register so that when the "safety" position is exposed in the day time, light from the sky will shine through the clear glass in said openings and distinctly show all of said exposed position except its central portion, which will be slightly obscured by the white central portions 15 and 17 of the blinds.

In the modified form shown in Fig. 8 two separate openings 2^a are provided to indicate "safety" and "danger" positions and

the blind instead of being mounted at its central portion is secured at its upper end to shaft 12 so that it may be swung to close either of openings 2^a. When this style of blind and openings is employed the auxiliary blind 16 and partition 18 may be dispensed with. The chief objection to this style, however, is that it requires more power to operate the blind as nearly all the weight of the latter is at its lower end.

The rear wall 5 of the case is preferably secured by hinges 21^a so access may be had to the mechanism inclosed in the case and also that a lamp may be placed in the latter for illuminating the positions at night.

While I have described the two positions as indicating "safety" and "danger" it is obvious that one of said positions may be employed to designate "caution" it depending entirely on whether the signal be employed as a home or distant signal.

Having thus described our invention, what we claim and desire to secure by Letters-Patent, is:—

1. A signal comprising a casing having one or more openings in its front wall forming two permanent positions, and a blind adapted to alternately cover said positions.

2. A signal comprising a casing having an opening forming two positions radiating from a common center, and a blind mounted to alternately cover said positions.

3. A railway signal comprising a suitable casing having an opening forming two intersecting positions, a blind mounted to alternately cover said positions, and an auxiliary blind adapted to assist the main blind in covering the danger position.

4. In a railway signal, a corrugated reflector consisting of a plurality of sections arranged at an angle so the under surface of one section will reflect light upon the upper surface of the succeeding section.

5. A railway signal comprising a suitable casing having an opening forming two intersecting positions, a main blind mounted to alternately cover said positions, an auxiliary blind adapted to assist the main blind in covering the "danger" position, and a partition interposed between the two blinds to cover the auxiliary blind when the "danger" position is exposed.

6. A railway signal comprising a suitable casing having an opening forming two intersecting positions, and a blind mounted to alternately cover said positions.

7. A signal comprising a casing having one or more openings in its front wall and one or more openings in its rear wall registering with those in its front wall, said openings being

arranged to form two positions, and a blind adapted to alternately cover said positions.

8. A railway signal comprising a suitable casing having an opening forming two intersecting positions, indicating safety and danger, a main blind mounted to alternately cover said positions, an auxiliary blind adapted to assist the main blind in covering the danger position, a partition interposed between the two blinds to cover the auxiliary blind when the danger position is exposed, and a reflector to which said partition is secured.

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

BARNEY SAMUELS.

Witnesses:

GEORGE SILBERMAN,
E. A. WALKER.

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

DAVID SAMUELS.

Witnesses:

C. A. SILL,
GEO. W. SNYDER.