

No. 674,020.

Patented May 14, 1901.

J. SCHIELE.

APPARATUS FOR EXHIBITING ADVERTISEMENTS, &c.

(Application filed May 22, 1899.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1.

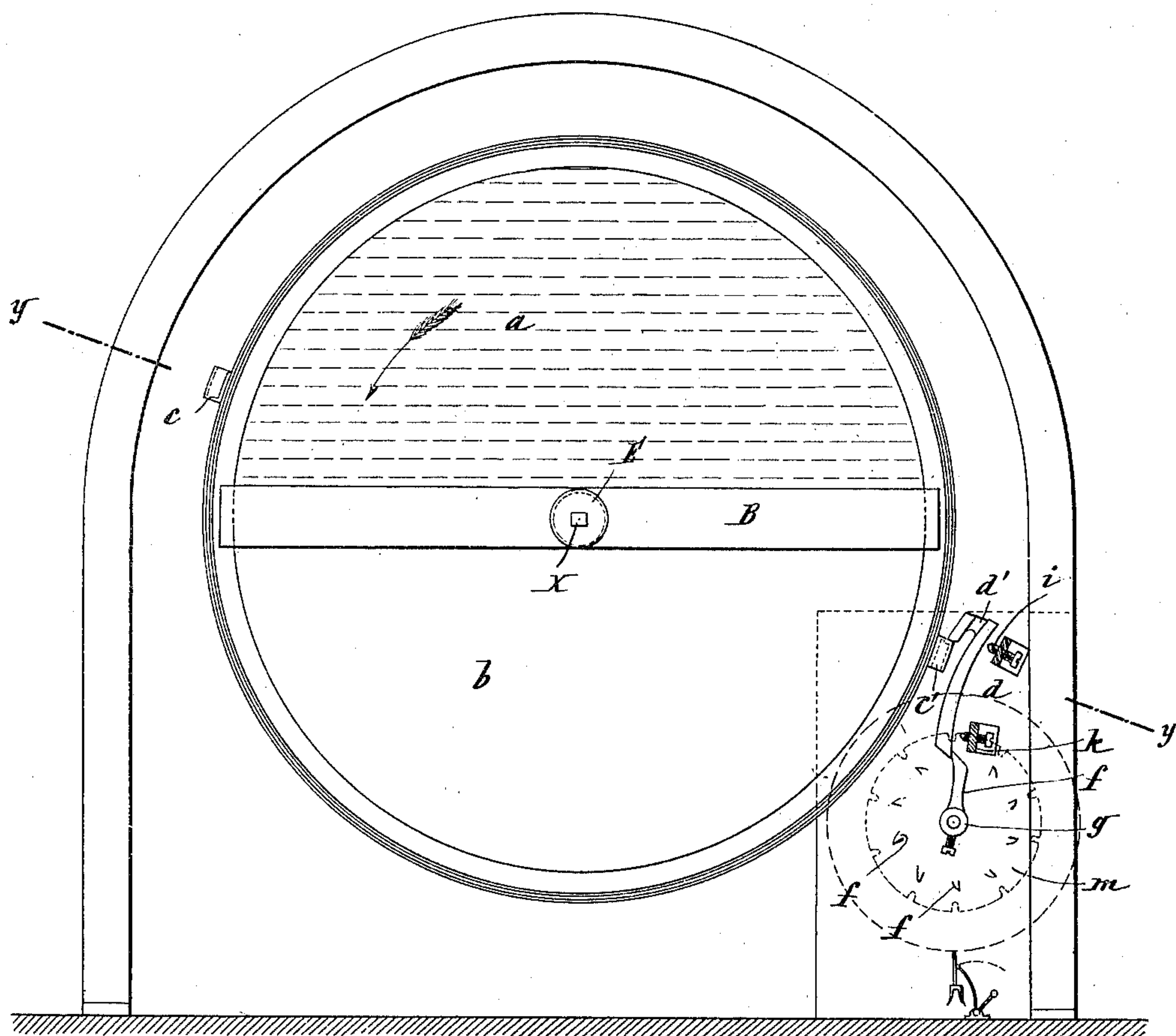


Fig. 3.

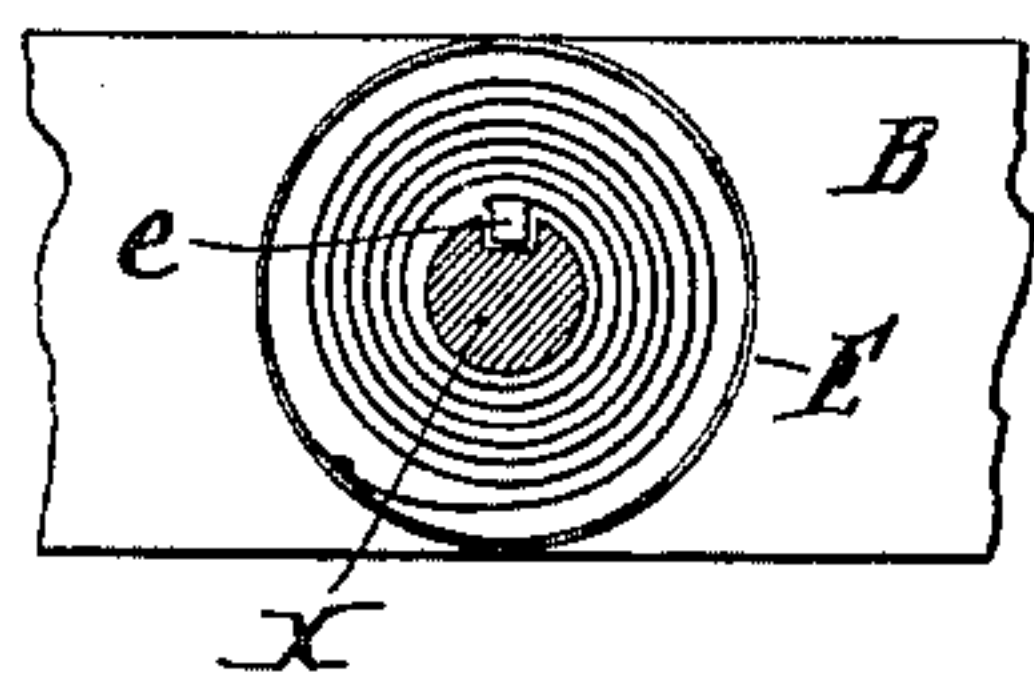
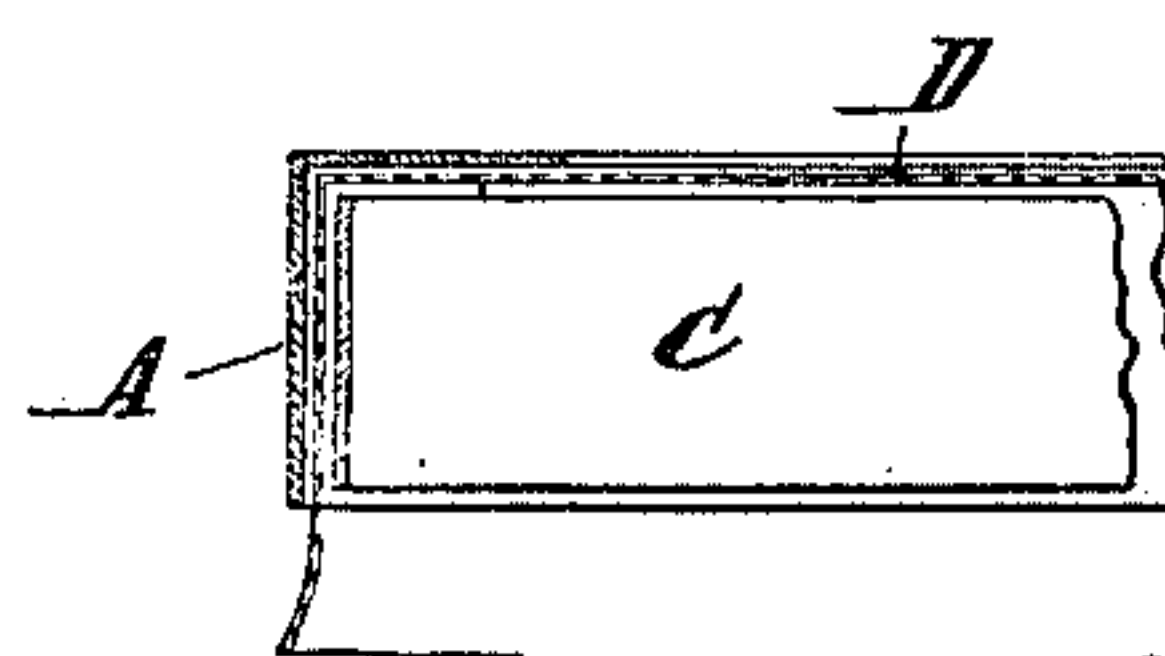


Fig. 4.



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Fig. 2.

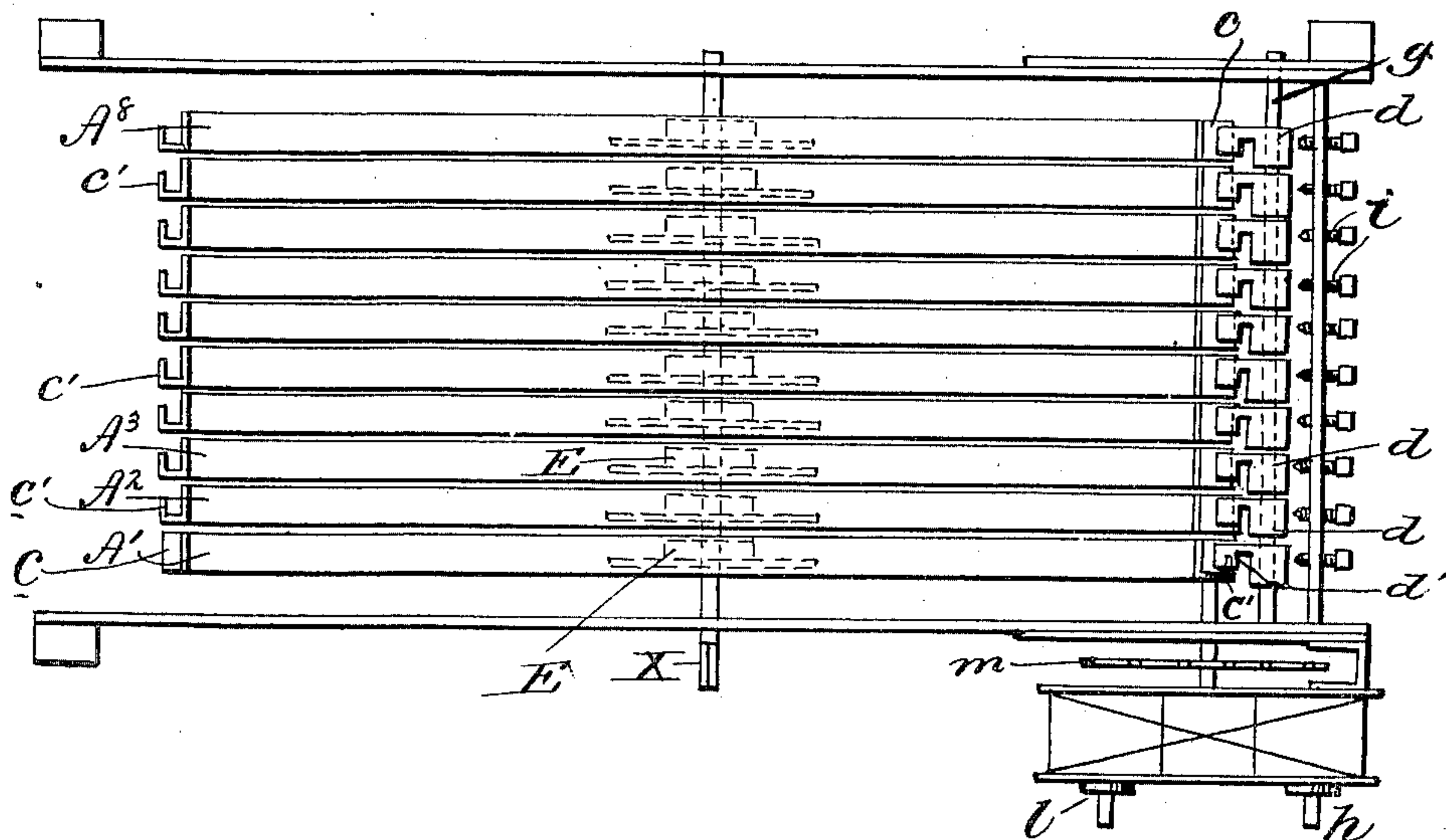


Fig. 5.

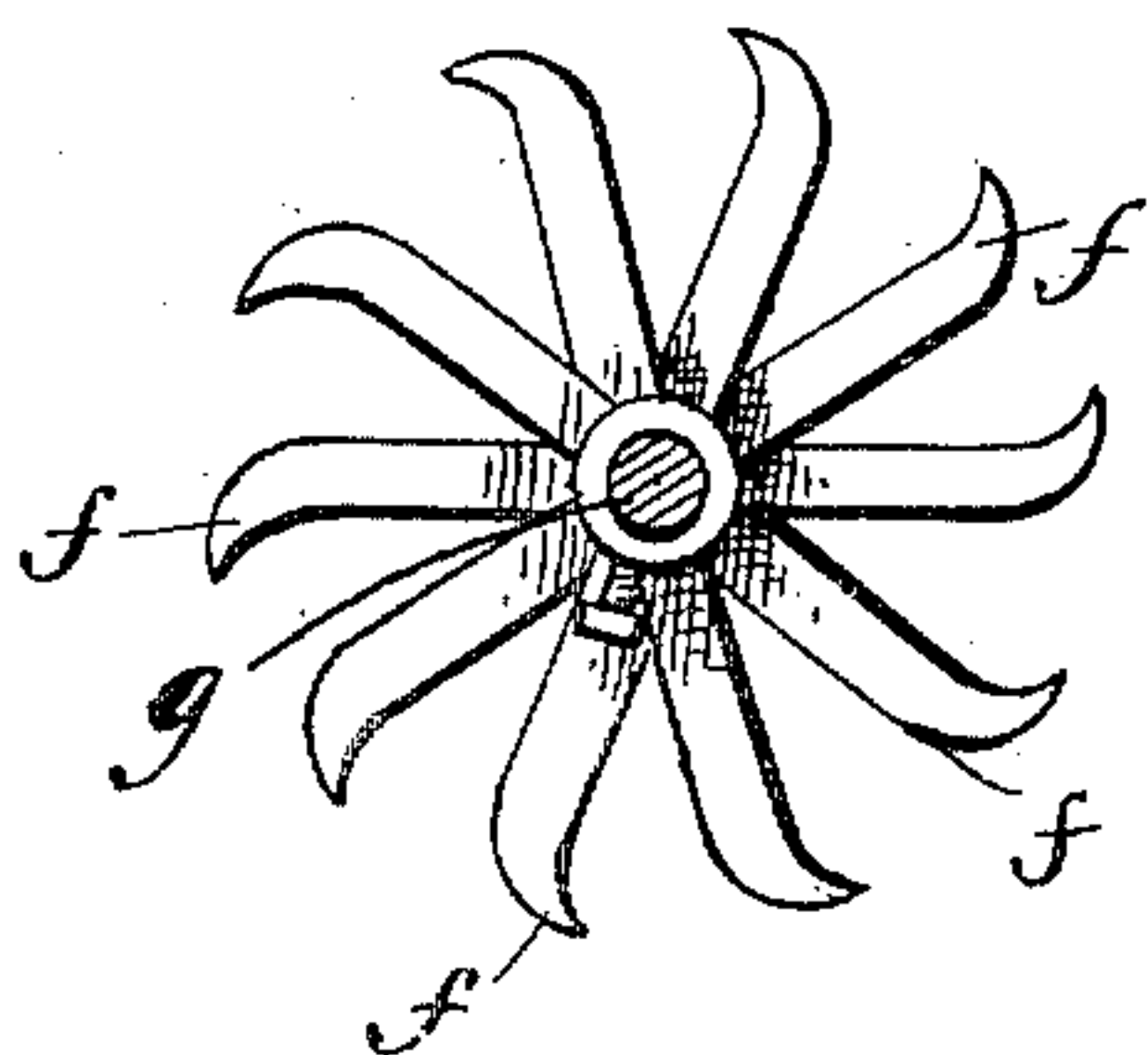
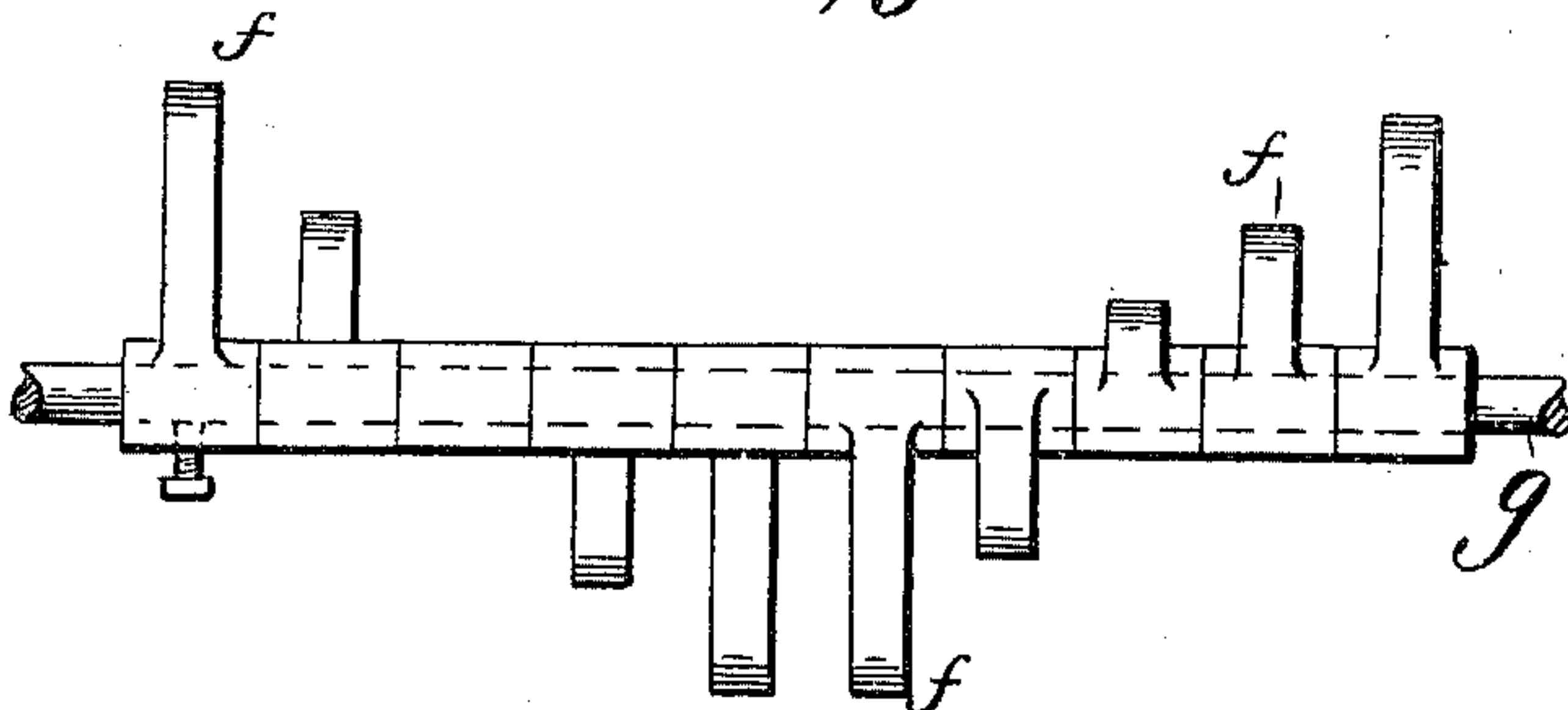


Fig. 6.



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4 Sheets—Sheet 3.

Fig. 1.

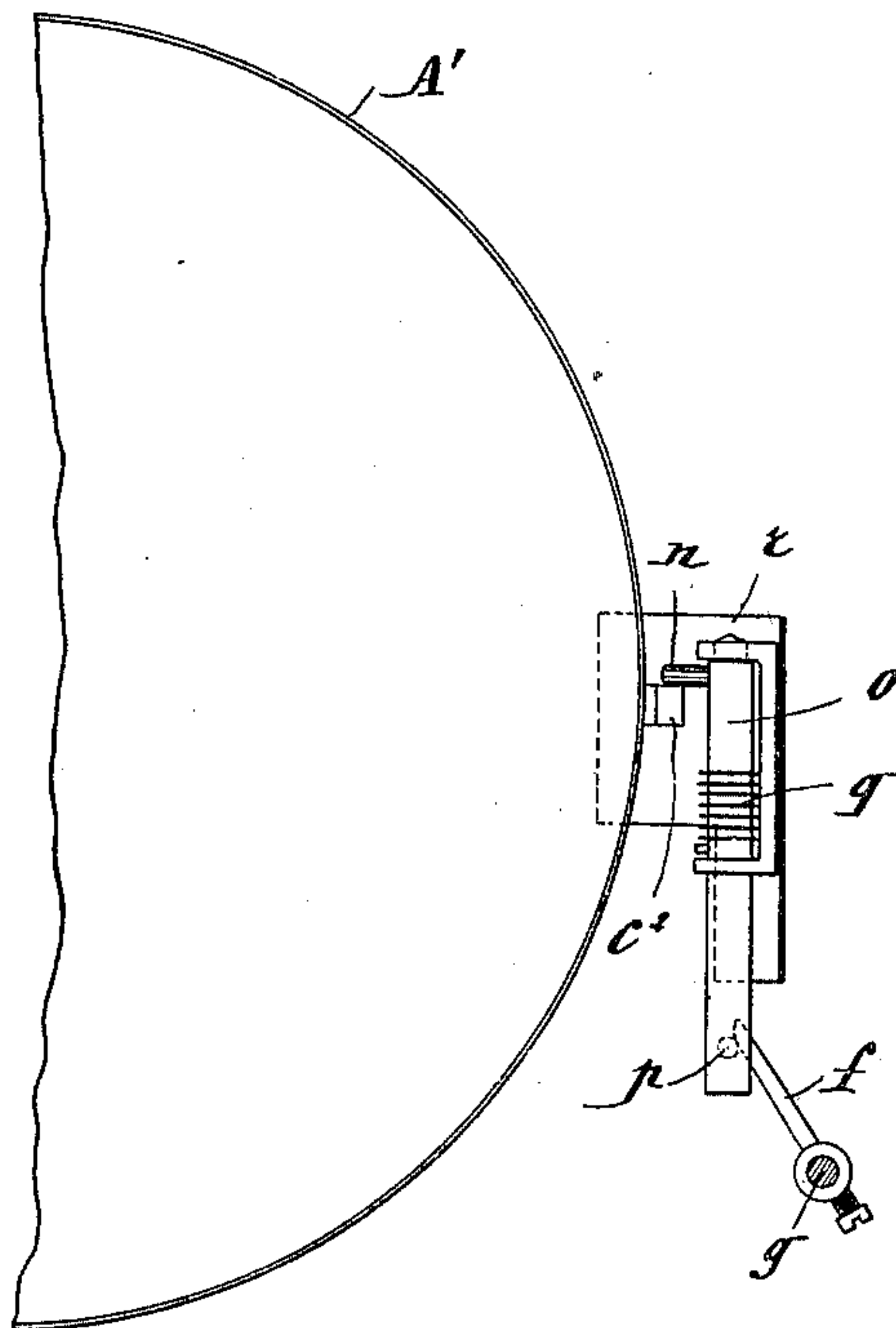
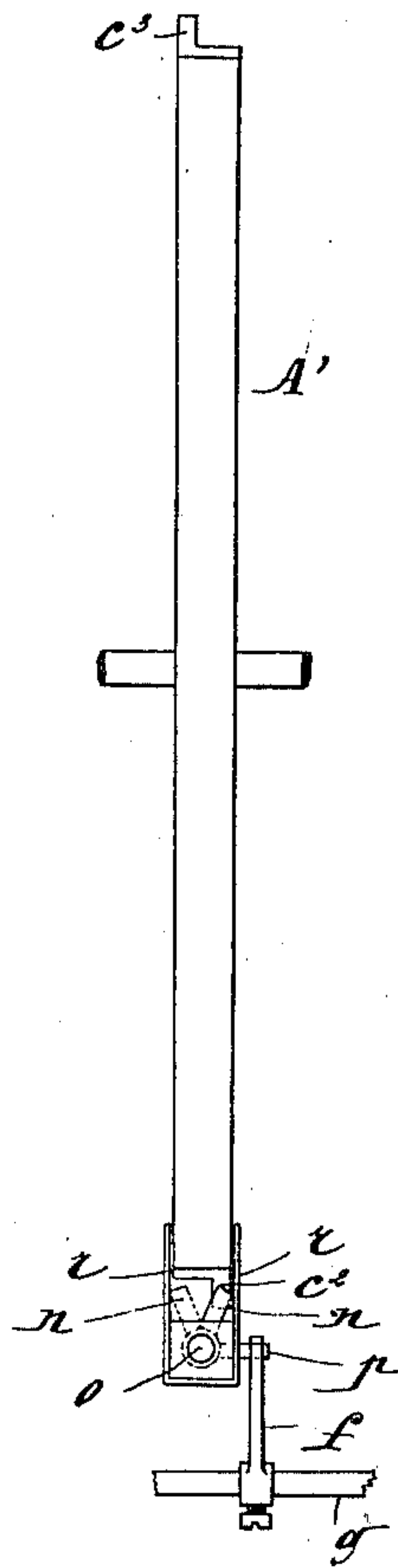


Fig. 8.



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(No Model.)

4 Sheets—Sheet 4.

Fig. 9.

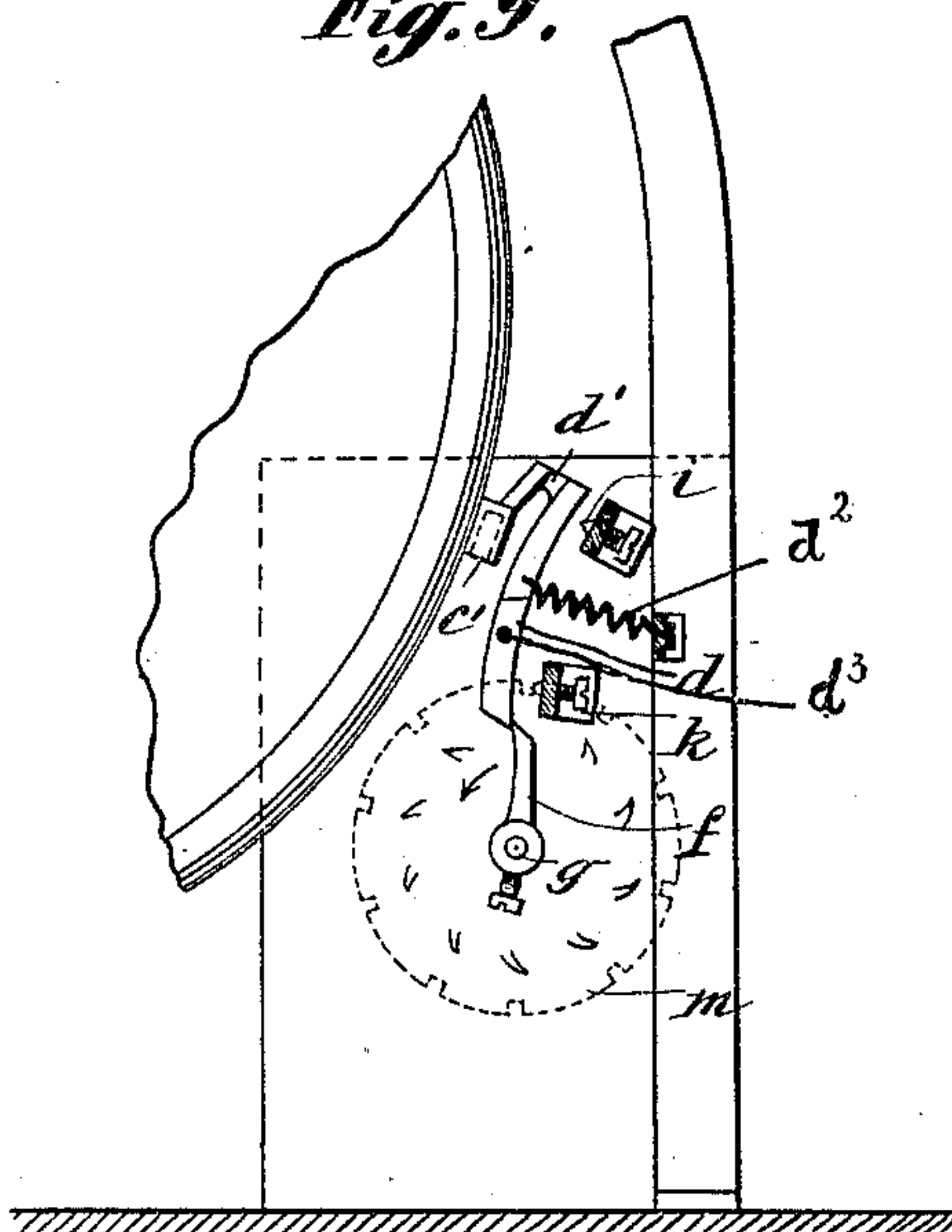


Fig. 10.

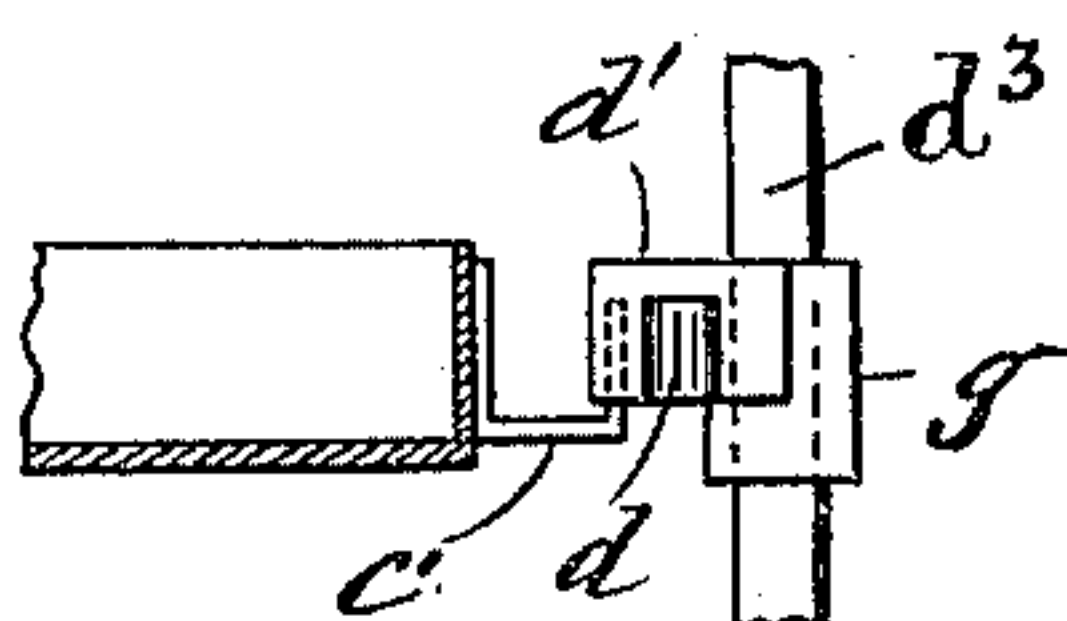


Fig. 11.

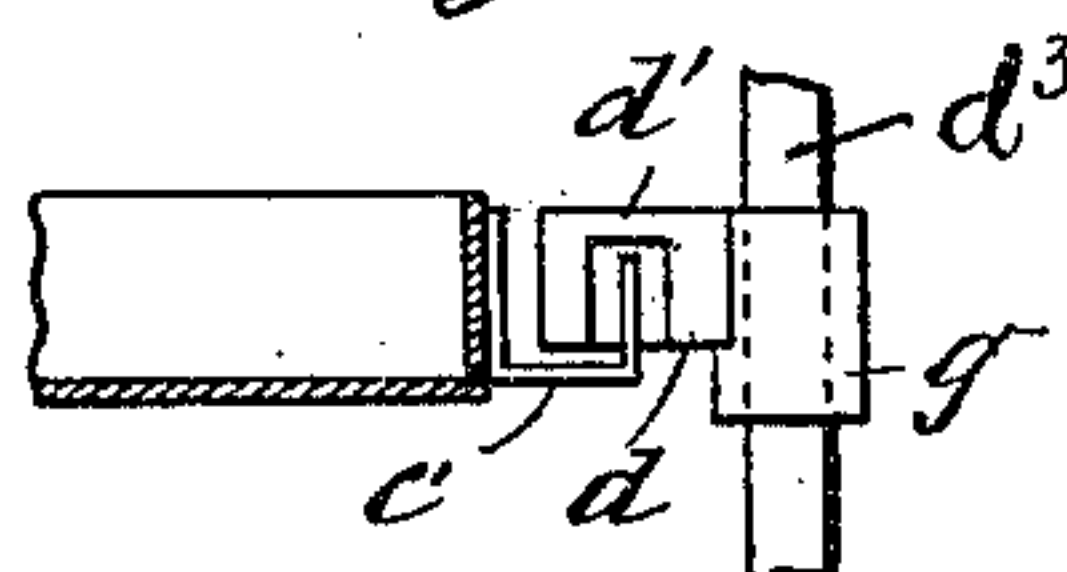
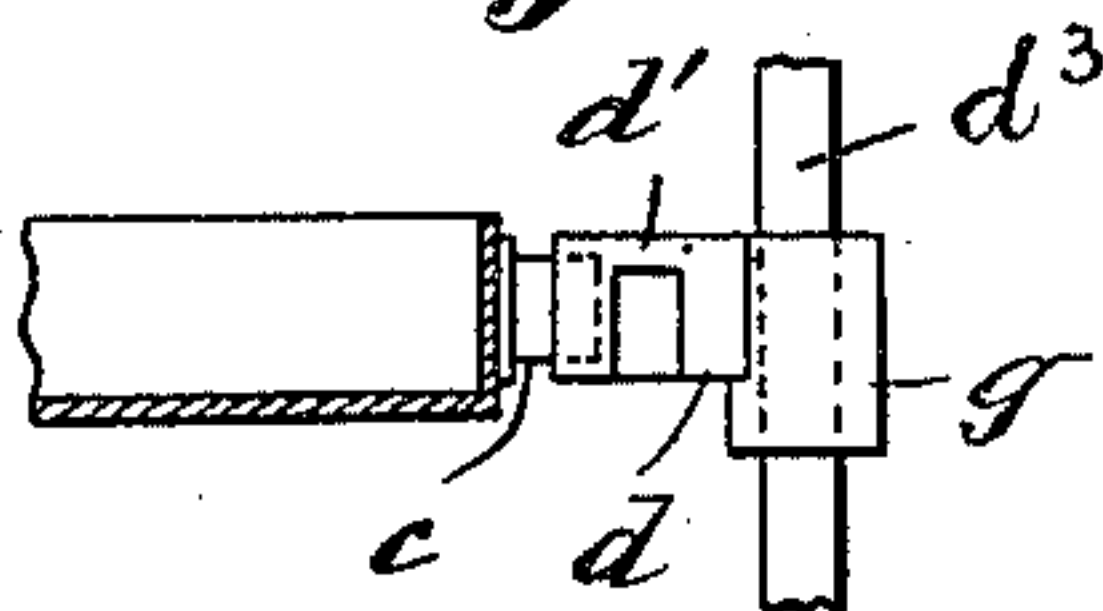


Fig. 12.



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UNITED STATES PATENT OFFICE.

JOSEPHA SCHIELE, OF BRUSSELS, BELGIUM.

APPARATUS FOR EXHIBITING ADVERTISEMENTS, &c.

SPECIFICATION forming part of Letters Patent No. 674,020, dated May 14, 1901.

Application filed May 22, 1899. Serial No. 717,782. (No model.)

To all whom it may concern:

Be it known that I, JOSEPHA SCHIELE, a subject of the Emperor of Germany, residing at Brussels, Belgium, have invented certain
5 new and useful Improvements in or Relating to Apparatus for Exhibiting Advertisements, Pictures, Notices, and the Like, of which the following is a specification.

This invention relates to an automatic apparatus for exposing to view advertisements, inscriptions, pictures, and the like.

The apparatus comprises a series of circles or disks arranged one behind the other on a shaft common to all, one half or part of each
15 disk being cut out or left open, while the other half or part is occupied by the advertisement, (preferably transparent,) picture, or the like to be exhibited. These disks are so actuated by an appropriate mechanism as to successively partake in a rotary movement composed of two semirevolutions, with a slight pause between the half-revolutions. In this manner the advertisement, picture, or the like of one disk is exposed to view during a
25 given time and then withdrawn, giving way to that contained on the second disk, and so on consecutively until the last disk of the series has been exposed to view, after which the first advertisement or the like again appears and the series of consecutive views is repeated.

At night a light may be placed behind or in front of the series of disks, so as to shine through the open space of the disks in which
35 the advertisements or the like successively appear.


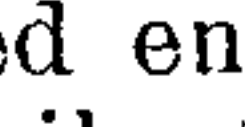
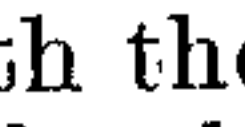
The semirevolutions of each disk are obtained by a motor mechanism, preferably clockwork, consisting of two cylinders or two
40 movements, of which one regulates the intervals between each semirevolution of each disk, while the other, directly or indirectly, produces the rotation of the disks. The latter is preferably so arranged as to rotate the disks by means of a central spiral spring whenever a catch-lever, controlled or actuated by clockwork, releases a stop arranged on the circumference of the disks. Each disk
45 is provided with two differently-shaped stops or projections. The first half-revolution of each disk serves to bring into the field of view

that half or part of the disk which contains the advertisement or the like, while the other half-revolution results in the disappearance of the advertisement or the like behind the
55 opaque half or portion of the apparatus, bringing into the field of view the empty half or part of the disk, so as to allow the advertisement half or part of the succeeding disk to appear in the field of view.

Figure 1 is a front view of the apparatus; Fig. 2, a plan view. Figs. 3 to 6 are detail views, while Figs. 7 and 8 represent a modification as regards the arrangement of the mechanism for stopping and releasing the
65 disks. Figs. 9 to 12 are detail views showing more clearly the construction of some of the details, as hereinafter referred to.

The disks, as illustrated in the drawings, are in the form of annular frames or rings A^1
70 A^2 A^3 , each preferably divided across the middle by a central bar B into two halves or fields a and b of equal area, over one of which—say a , for example—is stretched the preferably transparent material—say silk, cotton, paper, or other material—bearing the advertisement, picture, or the like, while the other field, b , is open. The material bearing the advertisement, &c., may be secured to the ring
75 A by means of an elastic or spring band C, fitting into the ring, and for the same purpose a stretching-bar may be provided on the cross-piece B. To the central part of the cross-piece B of each disk is secured a small cylindrical spring-case, the spiral spring of which
85 is fastened to the case itself at one end, while its other end is secured to the common shaft X by means of a block e , Fig. 3, fitting into a longitudinal groove in the shaft. The disks A^1 A^2 are interchangeable, and when placing
90 them on the shaft the blocks e are first inserted into the groove on the shaft X. The springs of the disks can therefore when the latter are held by their stops be wound all at the same time by means of a key fitting the square of the shaft X. Through the action of springs the disks are caused to revolve in the direction as indicated by the arrow, Fig. 1.

The rotation of the disks is so regulated by means of stops and tappets or catches arranged to produce that effect that after every
100 half-turn the disks are retained for a certain

length of time, each disk thus exposing to view in the open upper half of the apparatus alternately either the open field *b* or the covered field *a*. For this purpose each ring *A* is provided with two stops *c c'*, placed diametrically opposite to each other, which strike against a catch *d'*, carried at the upper end of a two-armed lever *d*, which is pivoted loosely on a shaft *d³*, the lower end of lever *d* being actuated by an arm *f*, keyed on a shaft *g*, actuated by clockwork mechanism *h*. There are as many levers *d* and arms *f* as there are disks in the apparatus, Figs. 2, 5, and 6. The arms *f* are all keyed on the same shaft in such a position as regards each other that the levers *d*, which are all mounted on a common shaft, should be actuated one after the other, and that at the moment that one arm *f* leaves its corresponding catch the next arm operates the next catch. The movement of the levers is limited by two set-screws *i k*. The stops *c* of the disks are smaller or lower than the stops *c'*, Figs. 1 and 2. The latter are -shaped, corresponding to the -shaped ends *d'* of the levers *d*. When the arm *f* strikes against a lever *d*, the latter is so turned about its pivot as to release the stop *c*. The spring *E* then turns the disk, which will now strike with its higher stop *c'* against the end of the catch. (See Figs. 1 and 2, disk *A'*.) In this position, in which the field *a*, provided with advertisements, &c., is exposed to view, the disk remains stationary during a certain length of time, regulated by action of the clockwork *l*, Fig. 2, until the latter releases the clockwork movement actuating the shaft *g*. The arm *f* is then freed from the catch *d'*, which by reason of the stress of spring *d²* on lever *d* returns to its first position—i. e., approaches the rim of the disk. Owing to the corresponding  shape of both the stop *c'* and the catch the former passes by the latter, and the disk revolves and brings its free part *b* into the field until the stop *c* strikes the advanced catch. At the same time the second arm *f* will have disengaged from the stop *c* of the next disk *A²* the catch *d'* of the said disk, then exposing to view the covered field *a* of the disk *A²*. The disk remains in that position until it is replaced by the field *a* of next disk *A³*. At the release of the last disk the catch *d'* of the first disk *A'* is again withdrawn from the stop *c*, and so on. The intervals between the releasing of the disk may be regulated by a dial *m*, Fig. 1, similar to a counting disk or meter. By means of a stop device the movement of the clockwork can be stopped or set going at will. Of course these devices may be replaced by any other suitable motor.

Figs. 7 and 8 represent, respectively, an elevation and a plan of a structural modification of the releasing mechanism for the disks of the apparatus. The two stops of different height *c c'*, Figs. 1 and 2, are replaced by two stops *c² c³* of the same height, but differently placed—viz., one to the right and the other to

the left of the outer surface of each disk *A'*, Fig. 8. These stops are alternately engaged by an arm *n*, fixed on the rod *o*, which at the opposite end is provided with another arm or projection *p*, preferably cut obliquely at its free end, against which the arm *f*, keyed on the shaft *g*, is adapted to act. The rod *o* is provided with a spring *q*, which tends to keep and return it to the position shown in full lines in Fig. 8. The swing of the arm *n* is limited by and within two plates or stops *rr*, which also serve to guide the disk *A'* as it rotates. When the arm *n* engages with the projections *c²*, the open field of the disk *A'* occupies the open space of the apparatus. When the arm *f* of the shaft *g* comes in contact with the arm *p*, the arm *n* is gradually turned into the position marked by dotted lines in Fig. 8. Thus the projection *c²* is set free, and the disk *A'*, actuated by its spring, turns through half a revolution, to be stopped when the projection *c³* strikes against the arm *n*. In this position the disk *A'* exposes to view its covered part. The arm *f* in the meantime continues its slow rotary movement and finally leaves the arm *p*, when the rod *o*, now free to follow the action of the spring *q*, returns to its first position, the projection *c³* is set free, and the disk again turns until its other projection *c²* strikes against the arm *n*. The arms *f* are so arranged that at the moment that the projection *c³* of one disk is set free the next arm *n* sets free the projection *c²* of the next disk. The disks may also be operated by gearing placed outside the apparatus. In the latter case the apparatus, which otherwise and preferably serves to exhibit advertisements and pictures, can be used as an indicator of any kind—as, for instance, of train movements in railway-stations.

I am aware that apparatus has been devised in which transparent disks or disks not arranged one behind the other are guided by a suitable mechanism to make a fraction of a revolution in order to expose one after the other portions provided with advertisements and other inscriptions, as is, for example, patent of A. G. Macdonell, dated February 14, 1893, No. 491,900; but I do not claim such a device, neither do I broadly claim a rotary apparatus having a series of disks divided into parts and partly covered and effecting successively a fraction of a revolution; but

What I claim is—

1. An automatic apparatus for exposing to view advertisements, pictures, notices and the like, comprising a series of rotary disks arranged one behind the other, one half of the surface of each of which is occupied by the device to be displayed, while the other half is open and transparent, and means for imparting an intermittent semirotation to each disk in succession, substantially as described.

2. In apparatus of the kind described, a series of disks each provided on its outer sur-

face with two projections arranged diametrically opposite each other and means for engaging and releasing said projections consecutively by a series of catches, the first projection of each disk being set free by the movement in one direction and the second by the movement in the opposite direction of its catch, substantially as described.

3. In apparatus of the kind described a disk provided on its outer surface with two projections as *c c'* of different heights the projection *c'* being of **U** form corresponding to the shape of the end of cooperating catch so that the projection may be released when the catch moves back substantially as described.

4. In apparatus of the kind described, the combination with a shaft, a series of rotatable disks mounted thereon one behind the other and projections on each of the disks, of a second shaft, a series of levers pivotally mounted on the latter shaft and each having a catch adapted to be engaged by the projections on a disk, a third shaft, a series of actuating-arms mounted thereon in such position relatively to each other that the levers on the said second shaft will be actuated one after the other as described, and means for impart-

ing an intermittent movement to the said third shaft.

5. In apparatus of the kind described, a series of disks arranged one behind the other and consisting of rings with cross-bars one half of each of said rings carrying the desired display matter, the other half being plain and transparent and means for securing said display matter to the ring, substantially as described.

6. In apparatus of the kind described, the combination with a shaft, a series of rotatable disks mounted thereon one behind the other and projections arranged diametrically opposite to each other on the circumference of each disk, a rotary shaft, means for imparting intermittent rotation thereto, and means intermediate the rotary shaft and disks adapted to engage and release the projections on each of the disks in the manner described.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

JOSEPHA SCHIELE.

Witnesses:

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GREGORY PHELAN.