

No. 697,381.

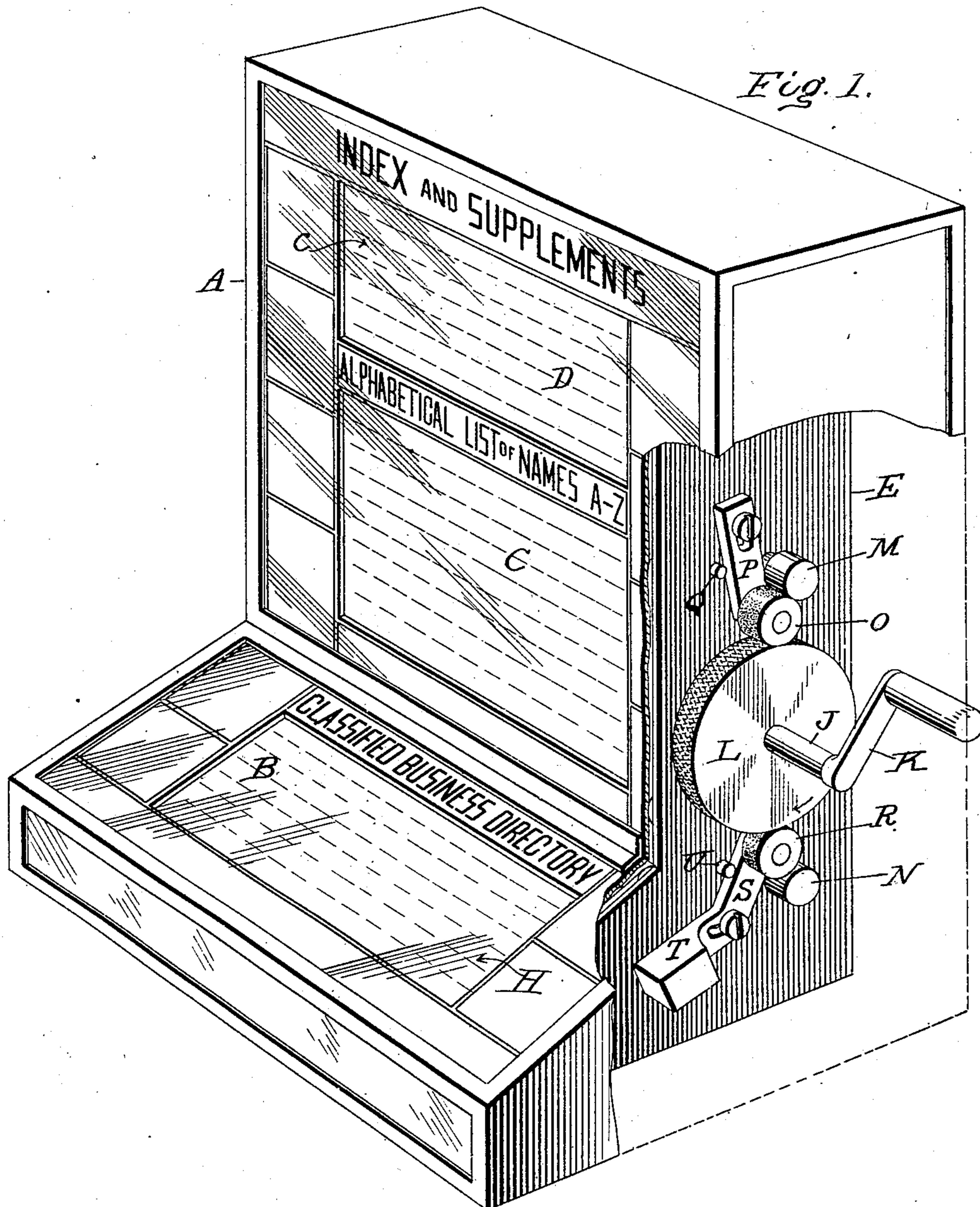
Patented Apr. 8, 1902.

G. W. MAXWELL.
MECHANICAL DIRECTORY

(Application filed Nov. 9, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

W. B. B. B. B.
D. E. B. B.

INVENTOR

George W. Maxwell,
BY *Dodge and Sons,*
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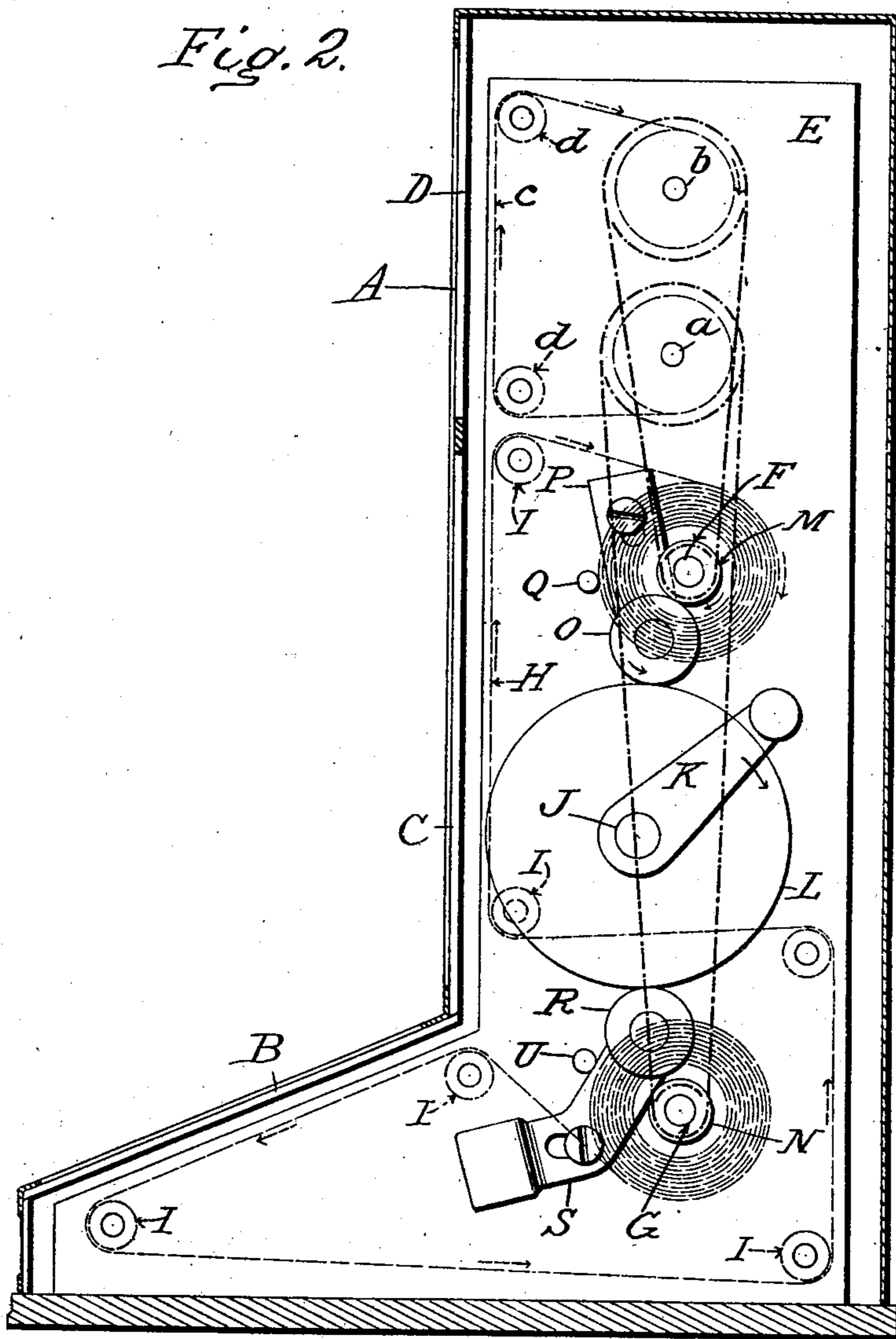
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MECHANICAL DIRECTORY.

(Application filed Nov. 9, 1901.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE W. MAXWELL, OF LOS ANGELES, CALIFORNIA.

MECHANICAL DIRECTORY.

SPECIFICATION forming part of Letters Patent No. 697,381, dated April 8, 1902.

Application filed November 9, 1901. Serial No. 81,721. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MAXWELL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Mechanical Directories, of which the following is a specification.

My present invention pertains to improvements in mechanical directories, the construction and advantages of which will be hereinafter set forth, reference being had to the annexed drawings, wherein—

Figure 1 is a perspective view of the apparatus, one side thereof being broken away to disclose portions of the operative mechanism; and Fig. 2, a vertical sectional view.

The present invention has for its object the production of a simple driving mechanism for the webs or belts employed in mechanical directories, which webs or belts carry names or indexes thereto, or both, or such other matter as may be found desirable. In such directories it is of course essential that the belt or web may be moved in either direction and that the reverse movement may be effected at any point in the length of travel of the belt, and this without any manipulation of the apparatus or mechanism by the user or operator other than the turning of the crank or handle in one or the other direction.

Referring to the drawings, A denotes a casing, made in any desired form and provided in the illustrated construction with sight-openings B, C, and D. A framework or box E is removably mounted within the casing and carries two cross-shafts F and G. Along web or band H has its ends connected to said shafts or rollers, passing from one to the other about a series of idle rollers I. Said idle rollers are so disposed that one face of the web or band H is exposed through the inspection-opening B, while the opposite face is in view through opening C. A third shaft J is mounted in the framework or box E, intermediate shafts F and G, one end thereof being extended through the casing and provided with a crank K. A wheel or disk L is carried by said shaft, the periphery thereof being slightly roughened or provided with a friction-surface, as found most expedient.

Shaft F is provided with a roller M, while shaft G carries a similar roller N.

A friction-roller O is mounted on an arm or lever P, the upper end of the arm being slotted, a screw passing through the slot into the frame. A stop-pin Q, extending outwardly from the frame, serves to limit the forward swinging movement of the lever and maintain roller O in contact with wheel L when said wheel is at rest or is turning in a direction reverse to that indicated by the arrow, Fig. 2.

A roller R is interposed between wheel L and roller N. Said roller R is mounted on the end of a slotted lever or arm S and is normally held in contact with wheel L by a weight T, carried by the opposite end of lever S. A stop-pin U serves to limit the forward swinging movement of the lever S and to maintain the roller R in contact with wheel L when said wheel is at rest or is turning in the direction indicated by the arrow in the drawings.

From the foregoing it will readily be seen that should the wheel L be rotated in the direction indicated by the arrow roller O will be carried by said wheel into contact with roller M and acting as an intermediate will cause shaft F to rotate, winding the web thereon and traversing it past inspection-openings B and C. At the same time roller R will assume the position indicated in Fig. 2, the slotted lever moving forward, carrying roller R out of contact with roller N. Immediately the direction of rotation of wheel L is changed arm P and its roller swing forward, said roller becoming inactive, while roller R is carried into operative driving position between wheel L and roller N, thereby imparting motion to shaft G and causing the web or band H to move in the opposite direction.

A second pair of shafts *a b* is mounted in the frame, and a web or band *c* has its ends connected, respectively, thereto, passing from one to the other shaft around idlers *d* and past the inspection-opening D. Said band or web may be employed for any desired purpose, but in practice I have used it as an index. Shaft *a* rotates in unison with shaft G, a band or chain *e* passing about a pulley or wheel mounted on shaft G and a similar

though larger pulley carried by shaft *a*, so that as one shaft rotates the other will likewise be rotated. A band or chain *f* forms the driving connection between the pulleys or
5 wheels carried by shafts *F* and *b*.

From the foregoing description it will be noted that if the travel of the band or web *H* be upward past the inspection-opening *C*, as indicated by the arrow, the band *c* will also
10 move in an upward direction. A reverse movement of the band *H* will, through the connections described, bring about a reverse movement of the band *c*.

It is to be understood that any matter may
15 appear on the bands; but, as above indicated, the band *c* will preferably be used as an index and for supplemental matters. The face of the band *H* which comes opposite the inspection-opening *C* will carry the names which
20 would appear in a directory, while the other face of said band, which comes opposite the inspection-opening *B*, will have thereon a classified business directory or the like.

Wheels *O* and *R* are preferably constructed
25 of leather or similar material in order to produce proper frictional contact between the main driving-wheel and the ends of the shafts or the rollers which are attached thereto. They are likewise made of such dimension
30 as to squeeze in tightly between the main driving-wheel and the end of the shaft in order to produce sufficient friction to rotate the shaft and wind the web thereon.

Having thus described my invention, what
35 I claim is—

1. In combination with a suitable casing provided with an inspection-opening, a pair of shafts mounted therein; a web or band
40 passing from one shaft to the other past said inspection-opening; a wheel mounted in the casing intermediate the ends of said shafts; arms pivotally connected to the casing adjacent to the ends of the shafts; and rollers carried by the free ends of said arms and normally
45 resting on the wheel, said rollers being of such size that as the wheel is rotated in one or the other direction, one or the other of said rollers will be brought into operative or driving relation with the end of the adjacent
50 shaft.

2. In combination with a suitable casing provided with an inspection-opening, a pair of shafts mounted therein; a web or band
55 past said inspection-opening; a wheel mounted intermediate the ends of said shafts; a slotted arm *P* pivotally connected to the casing adjacent to the upper shaft; a roller carried by said arm and normally resting upon

the wheel; an arm pivotally connected to the
60 casing below the wheel; a roller carried by said arm and normally held in contact with the wheel; and means for rotating the wheel, substantially as and for the purpose described.
65

3. In combination with a suitable casing provided with an inspection-opening; a pair of shafts mounted therein; a web extending
70 from one to the other of said shafts past the inspection-opening; a wheel mounted intermediate the shafts; a slotted arm *P* pivotally connected to the casing adjacent to the upper one of the shafts; a roller carried by the lower end of said arm and normally resting
75 upon the wheel; a stop to limit the swinging movement of the arm away from the end of the shaft; a slotted lever *S* pivotally connected to the casing below the wheel; a roller carried by said lever and normally held in contact with said wheel; and a stop to limit the
80 movement of said lever.

4. In combination with a suitable casing provided with inspection-openings *B*, *C* and *D*, a pair of shafts mounted in said casing; a
85 series of idle rollers also mounted in the casing; a band or web connected to the shafts and passing about the idle rollers, substantially as shown and described, whereby one face of said web will be exposed to view at
90 the inspection-opening *B* while the opposite face will be brought to view at the inspection-opening *C*; a wheel mounted intermediate said shafts; a slotted arm *P* pivotally connected to the casing adjacent to the upper
95 one of said shafts; a roller carried by the lower end of said arm; a stop to limit the movement of said arm away from the shaft; a slotted weighted lever *S* pivotally connected to the shaft below the wheel; a roller carried by the upper end of said lever; a stop to
100 limit the swinging movement of said lever; a second pair of shafts located in the upper portion of the casing adjacent to the inspection-opening *D*; a web passing from one to the other of said shafts past the inspection-
105 opening *D*; and connections between said second pair of shafts and the first pair of shafts whereby motion is imparted to said second shafts as one or the other of said first pair is moved.
110

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. MAXWELL.

Witnesses:

E. W. MAXWELL,
LOUIE R. LEONARD.