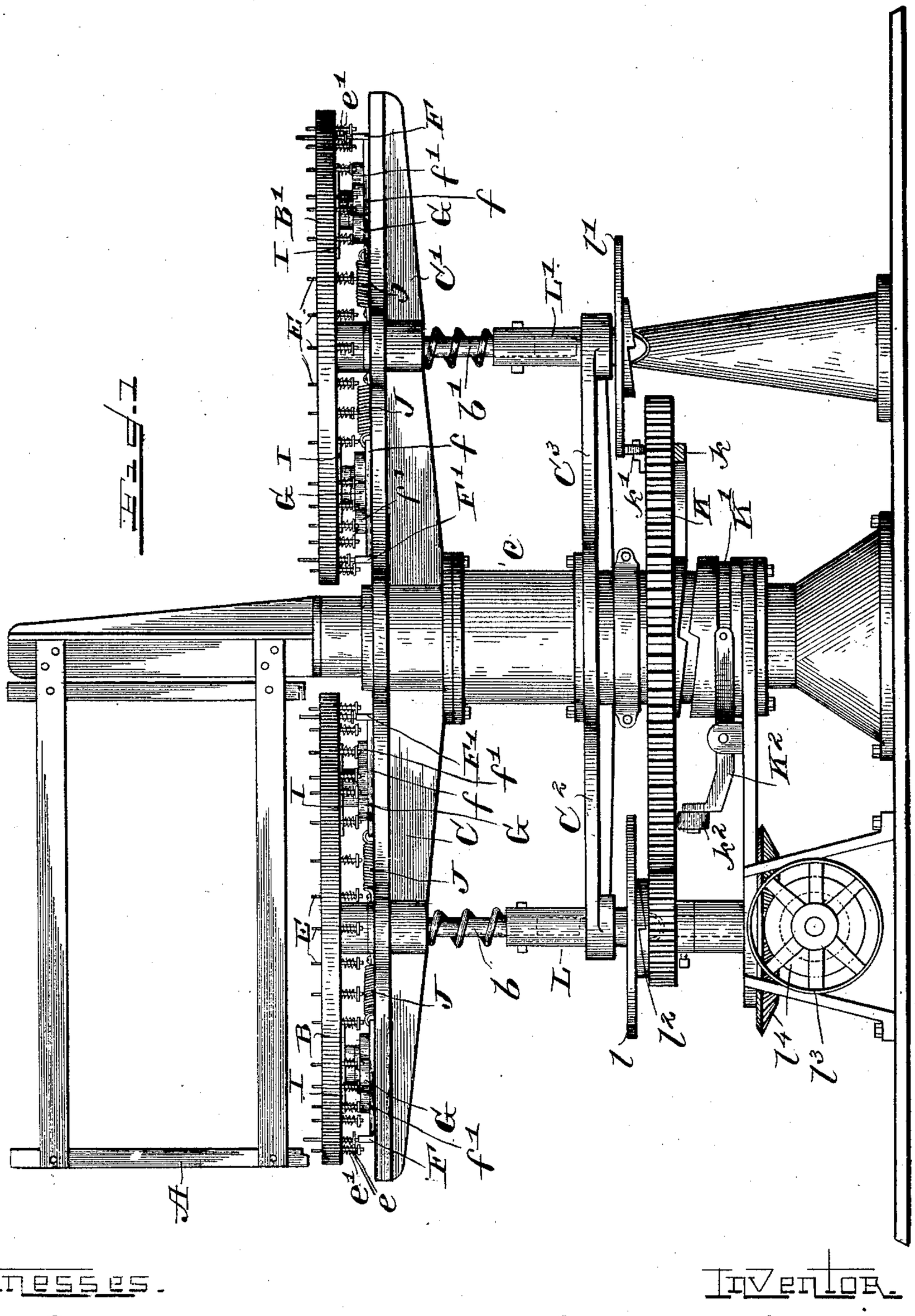
No. 707,605. Patented Aug. 26, 1902.

P. F. LINDT.

MACHINE FOR MAKING BASKET WEBS.

(Application filed Oct. 16, 1901.)

(No Model.) 4 Sheets—Sheet 1.



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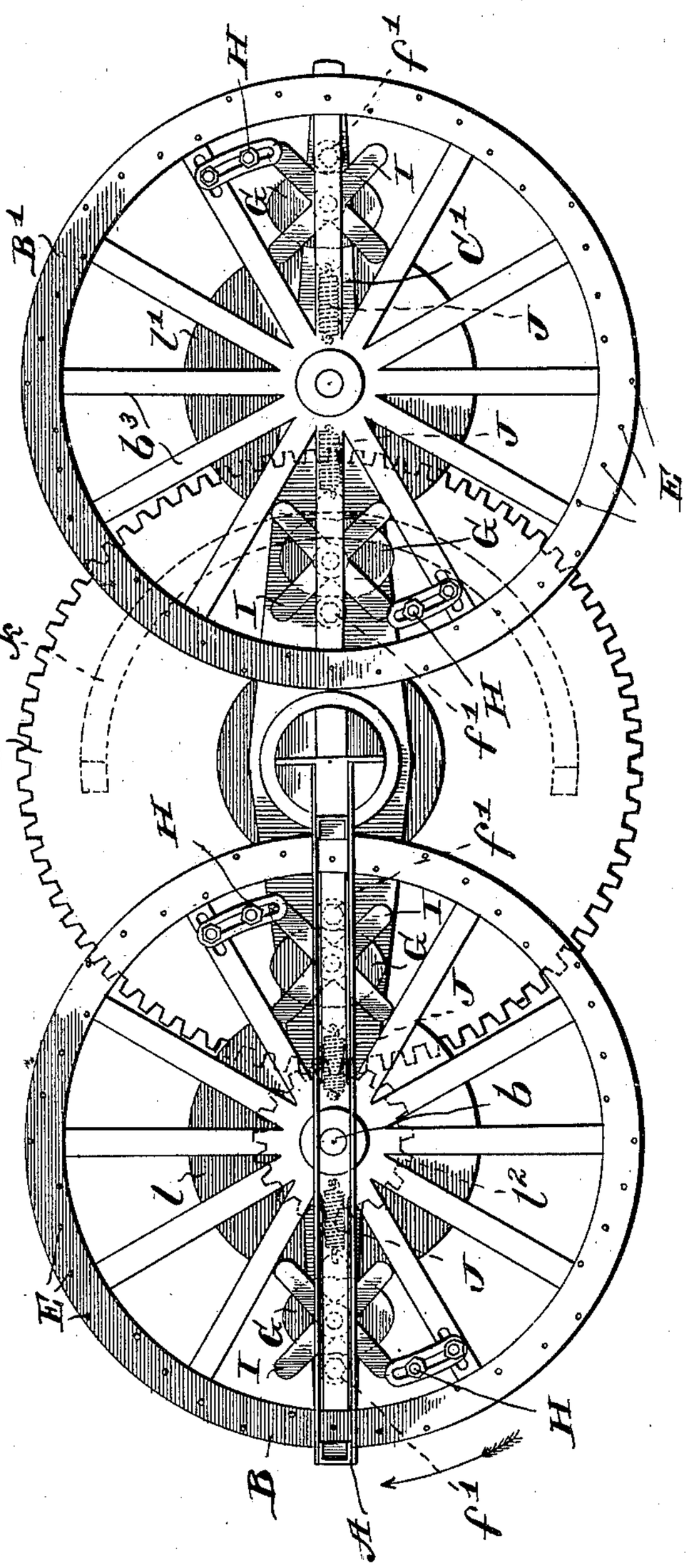
(No Model.) 4 Sheets—Sheet 2.



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(No Model.) 4 Sheets—Sheet 3.

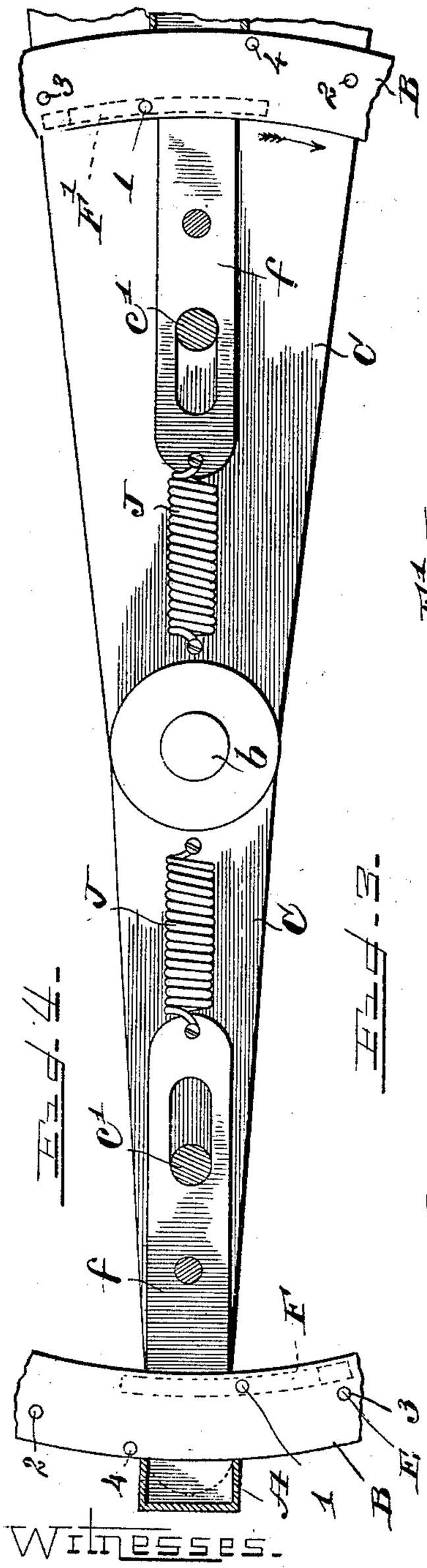

Fig. 4.

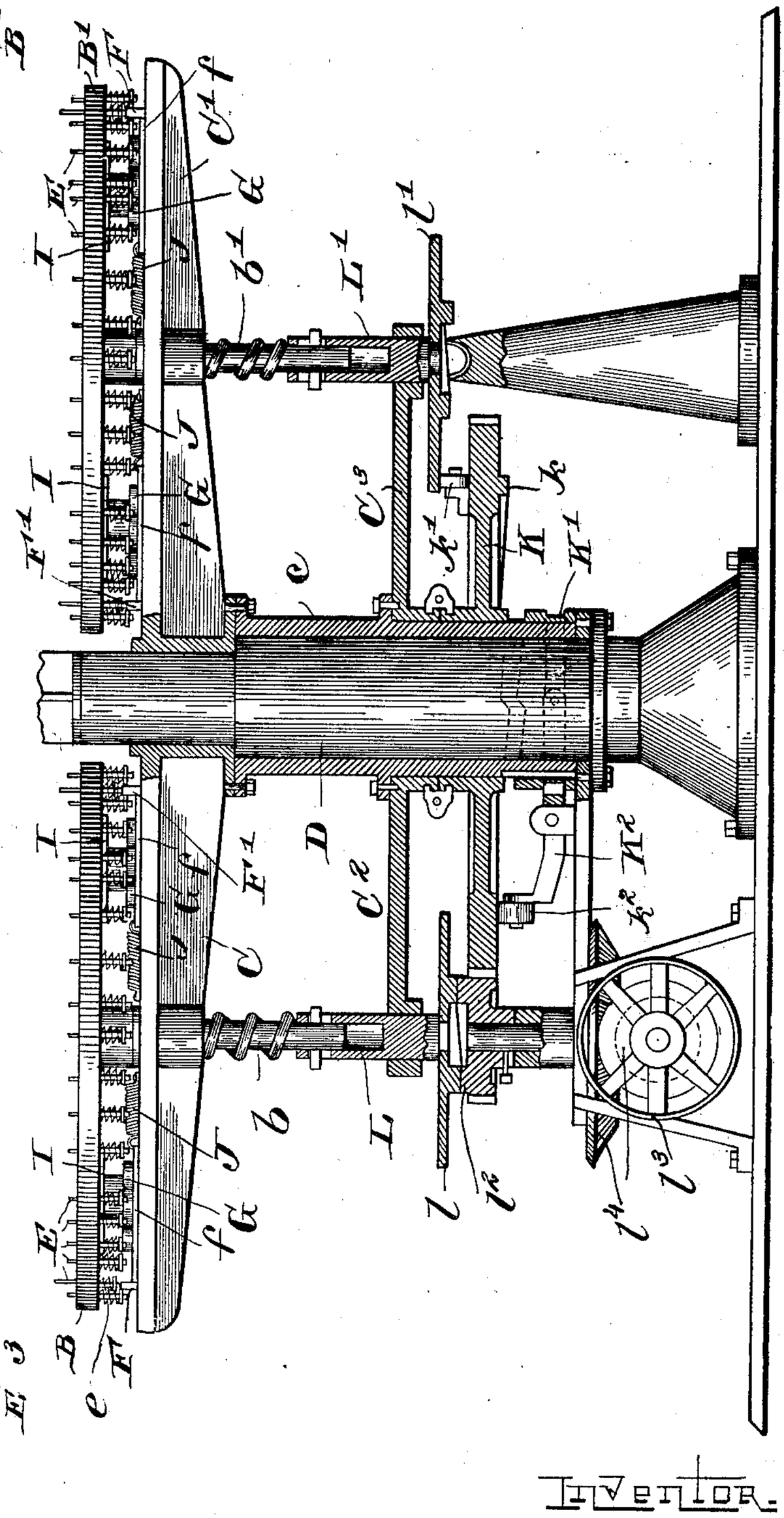

Fig. 5.

Fig. 7.

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(No Model.) 4 Sheets—Sheet 4.

Fig. 5.

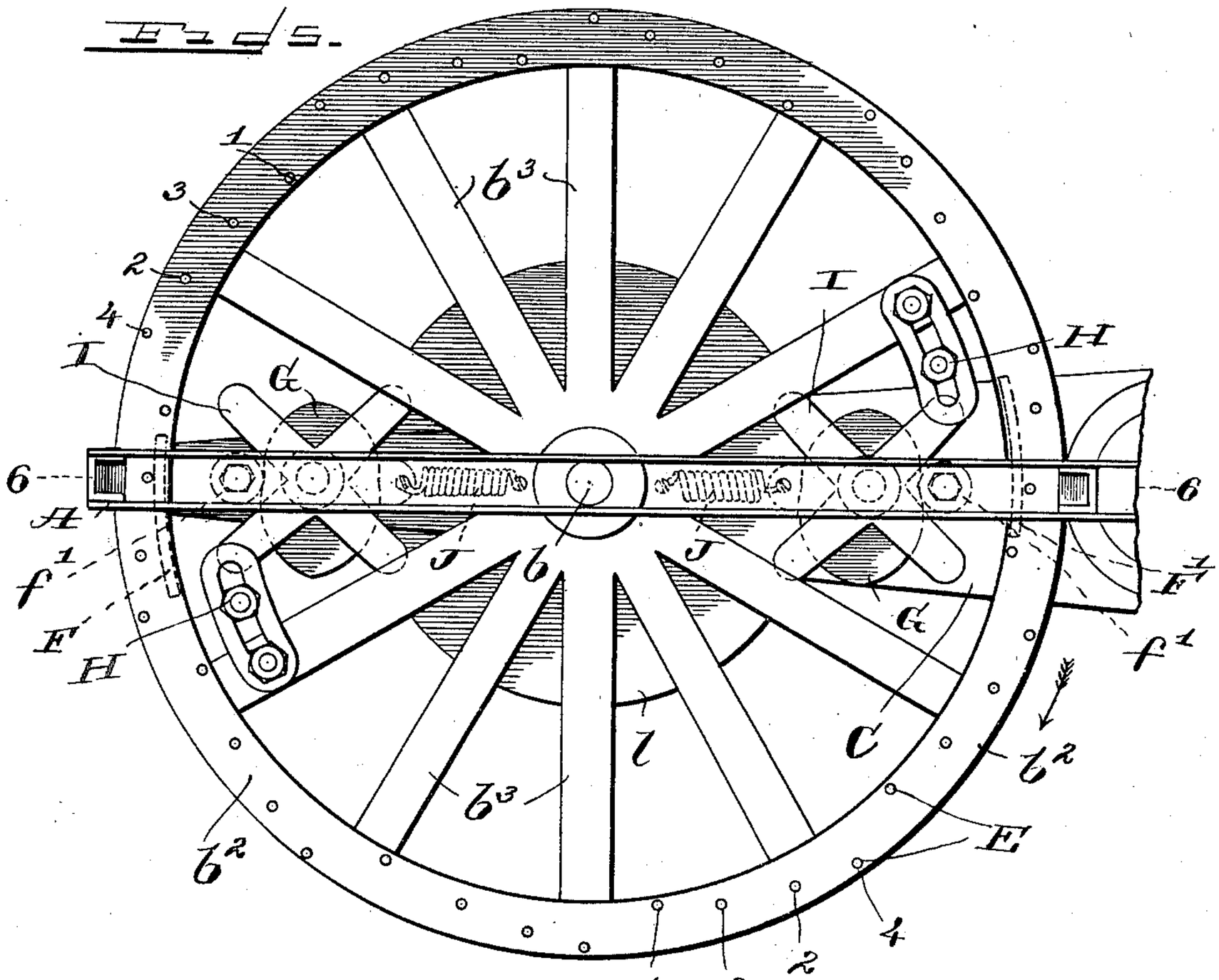
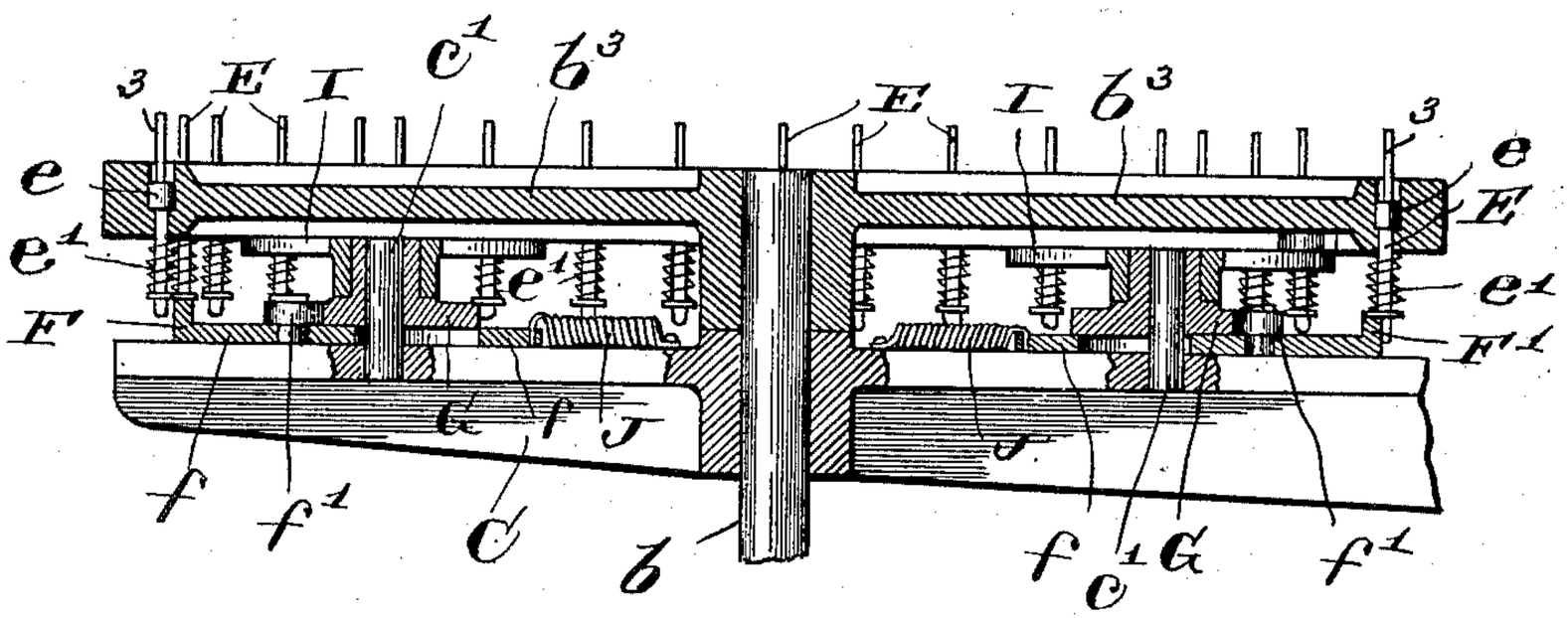


Fig. 6.



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UNITED STATES PATENT OFFICE.

PHILLIP FRED. LINDT, OF ST. JOSEPH, MICHIGAN.

MACHINE FOR MAKING BASKET-WEBS.

SPECIFICATION forming part of Letters Patent No. 707,605, dated August 26, 1902.

Application filed October 16, 1901. Serial No. 78,829. (No model.)

To all whom it may concern:

Be it known that I, PHILLIP FRED. LINDT, a citizen of the United States, residing in St. Joseph, Berrien county, Michigan, have invented certain new and useful Improvements in Machines for Making Basket-Webs, of which the following is a specification.

My invention relates to machines for use in making baskets of that form in which strips of material are first arranged crosswise in the form of a web. These webs are substantially flat and disk-like in form, the strips of material being arranged radially and secured together at the center or point where they cross. In completing the baskets these flat or disk-like webs are applied to suitable forms and then molded or pressed into desired shape. For example, the ordinary bushel-basket is constructed in this manner, thin strips of wood being, as stated, first arranged crosswise and secured together at the center, so as to form a disk-like web, which is then applied to a suitable form and thereon molded into basket form. As stated, however, my invention relates more particularly to the means for constructing or forming the webs for these baskets.

The objects of my invention are to provide a simple and serviceable machine for making basket-webs, to provide a machine capable of rapidly and accurately arranging the strips of material, to provide a machine capable of automatically supplying the stock to the means employed for automatically arranging the strips of material in the form of a web, to provide a machine capable of arranging the strips of material into the desired web form and also capable of then shifting the thus-arranged stock or material into position to be suitably fastened together, to provide a machine which will arrange the strips of material in the desired and most approved manner, to provide an automatic machine of this character, so as to facilitate the method of making baskets and so as to reduce the cost of manufacture, and to provide an automatic machine of this character involving certain details and features of improvement tending to secure accuracy and certainty in the manufacture of baskets of this character.

To the foregoing and other useful ends the stock or strips of material can be supported in a suitable hopper or holder, and the same can be arranged to deliver these slats or strips of material to a rotary support or table arranged immediately below. This rotary support or table can be provided with suitable devices for removing the strips of material one by one from the bottom of the hopper or holder. The strips of material thus removed from the bottom of the hopper or holder are deposited in place upon the said rotary support or table. The devices for removing the strips of material from the bottom of the hopper or holder are of such character as to cause the strips of material to deposit themselves in the desired form or arrangement upon the surface of the rotary support or table. When the requisite number of the said strips of material have been properly deposited and arranged upon the said table, the latter is then preferably shifted to one side, so as to permit a fastening device to be applied for securing the strips of material together at the center. In this way the stock held by the hopper or holder is automatically released or fed to the rotary support or table, and the rotation of the latter, as explained, causes the strips of material to distribute or arrange themselves in the desired manner. In this way the strips of which the webs are composed are automatically arranged, and by so doing the machine obviates the necessity of arranging the strips of material by hand, which is the usual method. This, as stated, tends to cheapen or reduce the cost of manufacture in baskets of this character. It also insures certainty and uniformity in their manufacture. The nature and advantages of my invention will, however, hereinafter more fully appear.

In the accompanying drawings, Figure 1 is a side elevation of a basket-web machine constructed in accordance with my invention. Fig. 2 is a plan of the machine shown in Fig. 1. Fig. 3 is a view similar to Fig. 1, except that in this view the upper portion of the machine carrying the hopper or holder is broken away and that in the lower portion of the machine the gearing, sleeves, &c., constituting the means for rotating the rotary table-carrier, are shown in vertical section. Fig. 4 is an enlarged detail plan of two opposite portions of one of the rotary table-rims and also of the arm of the table-carrier which supports

this table, the view being intended to more clearly illustrate the cams or devices which actuate the movable pins in the said table. Fig. 5 is an enlarged plan of the hopper or holder and also of the rotary support or table below said hopper or holder. Fig. 6 is a vertical section on line 6 6 in Fig. 5.

As thus illustrated my invention comprises, preferably, a hopper or holder A, adapted to hold the strips of material in position to be deposited one by one upon the rotary tables B B'. It will be understood that the strips of material for constructing the basket-web are preferably arranged in a superimposed condition—that is to say, they are preferably arranged one upon another—and that the hopper or holder A is constructed accordingly.

The two rotary tables B B' are preferably mounted for rotation upon the laterally-extending arms C C' of the rotary table-support. This table-support is preferably mounted to rotate about a vertical axis, the preferred arrangement being to provide the said table-support with a downwardly-extending sleeve *c*, adapted to rotate upon the cylindric upright portion of the standard D. This rotary table-support is also preferably provided with a second pair of laterally-extending arms C^2 and C^3. The upper and lower arms of the rotary table-support are adapted to provide bearings for the vertical stems or spindles *b* *b'* of the rotary tables B B'.

The rotary tables B B' are preferably in the form of wheels or disks which are round or annular in form and which are constructed in each case of a rim or peripheral ring b^2 and of a hub portion suitably connected with said ring or peripheral portion by spokes b^3. It will be readily understood that each table may, if desired, consist simply of a solid flat disk of metal or other suitable material. These rotary tables are intended to receive the strips of material from the bottom of the hopper A, and it is for this reason that they are rotatively supported upon the rotary table-carrier having the laterally-extending arms C and C'. With this arrangement first one table and then the other is presented to the bottom of the hopper, the first table receiving the desired or requisite number of strips of material necessary to the formation of a web and this table then being swung around and replaced by the second table. In this way the web is first formed on one table, and this web is then carried into position to have its central portion provided with a suitable fastening device for fastening together the strips of material. While the fastening device is being thus applied to the web, the other table is receiving a like number of strips of material, and when the completed web is removed from the first table the table-carrier is then rotated so as to bring the second web out from under the hopper and into position to be similarly treated with the fastening device. It will be readily understood that the device for fastening together the strips of material can be of any suitable form—such, for example, as a suitable nail, screw, or other like article. Various devices can be mounted upon the rotary tables, and they are arranged to coöperate with the hopper or holder in properly distributing the strips of material upon the upper surface of each table. For example, the rim or peripheral ring of each table can be provided with upwardly-projecting pins E, arranged in position to engage the lowermost strip of material in the hopper, and so actuated or operated as to cause the strips of material to drop or fall from the bottom of the hopper or holder and arrange themselves in the desired form upon the upper surface of the table. In this case, and, for example, in the case of a bushel-basket web, the strips of material are preferably arranged crosswise in radial form, so as to form a sort of disk, and these strips of material are then, as explained, fastened together at the center—that is to say, a nail, screw, or staple is inserted through the slats at the point where they cross in the middle of the web. With respect to the well-known and approved manner of distributing the strips of material said pins E are preferably arranged as shown more clearly in Fig. 5, in which view it will be seen that the pins are arranged in groups of four, the first one being arranged at the extreme inner margin of the ring b^2, and the series then extending tangentially, so as to have the last one occur near the extreme outer edge of the ring b^2. The number of pins shown in the drawings is sufficient to remove twenty strips of material from the bottom of the hopper or holder, it being preferable to first distribute or arrange five of the strips at regular intervals upon the table, to then deposit five more in such manner as to have them occur at points intermediate of those of the first five, to next deposit five more at points intermediate of those already laid, and to finally deposit the last five in such manner as to fill up the remaining gaps. In this way the strips of material are laid five at a time, so to speak, such method being for the well-known purpose of securing a flatter and better form of web. These pins or fingers E are preferably so operated or actuated that in operation two of them engage the opposite ends of the lowermost strip of material in the hopper or holder, it being understood that the two pins thus in connection engage opposite side edges of the end portions of the strips of material, so as to enable the rotary motion of the table to practically twist the strip of material off from the bottom of the hopper or holder—that is to say, the two fingers on the rotary support or table engage the lowermost strip of material in such manner as to partially rotate it about a vertical axis—thereby disengaging the opposite ends of the strip of material from the lips or projections on the bottom of the hopper. In other words, the pin or finger at one end of the hopper pushes one way, while the pin or finger at the

other end pushes in the opposite direction, which results, as stated, in disengaging the lowermost strip of material from the bottom of the hopper or holder. Thus, as explained, two of these pins or fingers are actuated at a time, thereby removing the strips of material successively from the bottom of the hopper or holder, and as these strips of material fall from the bottom of the hopper or holder it will be seen that they dispose themselves crosswise on the table in such manner that their end portions lie between the upwardly-projecting pins or fingers. With respect to the above-described preferred method of distributing the strips of material, the pins or fingers are, as stated, arranged in groups of four, the pins designated by 1 being actuated first—that is to say, being actuated upon the first half-rotation of the table—the pins designated by 2 being actuated upon the second half-rotation of the table or support, the pins numbered 3 being actuated upon the third half-rotation of the table, and the pins designated by 4 being actuated upon the fourth and final half-rotation of the table which is being rotated beneath the hopper. In this way, as is obvious, each table necessarily rotates twice in order to cause, in this case, twenty of the strips of material to be released from the bottom of the hopper or holder. Any suitable means or arrangement can be adopted for actuating these pins or fingers at the proper time. As a simple and effective arrangement, the arms C C′ can be provided with sliding or adjustable cams F F′, arranged in position to engage the lower ends of the pins E during the rotation of the tables. At this juncture it will be observed that each pin is preferably provided with a shoulder *e*, and also that a spring *e′* is applied to each pin in such manner as to cause it to be depressed or lowered immediately upon leaving one of said cams. The lower ends of these pins or fingers are, as stated, adapted to engage the cams F F′, it being observed that the two cams for each table are arranged at opposite points and in such manner that two pins located at opposite sides of the table will be actuated or forced upwardly at the proper moment for disengaging the strips of material from the bottom of the hopper. As stated, the table which is below the hopper is the one which rotates, the one which has been carried out from under the hopper being allowed to remain stationary, so as to permit the fastening device to be applied to complete the web. This rotation of the table below the hopper or holder causes the fingers or pins which such table carries to be successively pushed or forced upwardly, so as to cause the upper ends of the pins or fingers to engage the lowermost strip of material in the hopper or holder A. Referring more particularly to Fig. 4, it will be seen that the pins or fingers 1 are directly over the cams F, that consequently these pins are pushed or forced upwardly, and that the upper ends of these pins are consequently in a position to engage the lowermost strip of material in the hopper, the effect being to cause such lowermost strip to rotate with the table, and thereby release itself from the bottom of the hopper or holder. As previously explained, the pins designated by 1 are actuated first, the pins designated by 2 are actuated next, the pins numbered 3 are next operated, and the pins designated by 4 are then actuated upon the final half-turn of the table. In respect to this particular method of operation any suitable means can be employed for automatically shifting the cams F F′, so as to engage these pins in their proper turns; but as a matter of further improvement and as a simple and effective device these cams for actuating the pins or fingers E are shifted radially to the axis of the tables by means of rotary cams G. These four devices for actuating the cams which raise the pins or fingers E are all substantially alike, and for this reason a description of one will suffice for all. Referring to one of these devices, therefore, the cam G is mounted for rotation upon a pin or vertical stud *c′*, which projects upwardly from the upper surface of the arm C. The cam F is preferably mounted at the end of the sliding strip or member *f*, and this sliding strip or member is preferably provided with a roll *f′*, which it carries on its upper surface. The cam G is adapted to engage this roll *f′*, and this cam is provided with a peripheral formation adapted to cause a shifting or sliding movement on the part of the sliding strip or member *f*. The table rotates in the direction indicated by the arrow, and each table is provided with a couple of adjustable projections—for example, the bolts H—which are adapted to provide a pair of oppositely-arranged strips for actuating the finger-wheels I. The fingers of each of these said wheels are, it will be observed, four in number. This is in respect to the four half-revolutions necessary on the part of the table to remove the requisite number of strips of material from the bottom of the hopper. In each case the finger-wheel I is rigid with the cam G, and with this arrangement each cam is given a quarter-rotation at the end of each half-turn on the part of the table. Each time the cam G is partially rotated it shifts the cam F either out or in, the first time the shift being in such direction as to bring the cam F into position to engage the pins 2. Upon the next half-rotation of the table the bolts H engage the finger-wheels I, and the quarter-turn thereby given the cams G causes the cams F to move inward, this time to an extent to bring them into position to engage the pins 3. At the end of the third half-rotation of the table the cams G are again partially rotated, but this time in such manner as to cause the cams F to move to their extreme outward position—that is to say, into position to engage the pins or fingers 4. In this way

the rotation of each table is utilized for the purpose of causing the pins or fingers to automatically rise and perform their function of removing the strips of material from the bottom of the hopper. In each case it is preferable that the sliding strip or member which carries the cam for actuating the pins or fingers—for example, the sliding strip or member *f*—be held normally back by means of a spring J. These springs, it will be observed, operate in each case to hold the rolls—for example, the roll *f'*—in engagement with the rotary cam G. In this way the sliding strips which carry the cams for raising the pins or fingers E are moved outwardly by the cams and are pulled back or moved toward the table-axes by the coil-springs J. The said sliding strips or members which carry the cams for raising the pins E can be provided with slots, substantially as shown in Fig. 4, through which extend the pins or studs on which the rotary cams are mounted. These slots, it will be understood, permit the desired shift or sliding movement on the part of the members which carry the cams for raising the pins E.

It is obvious that any suitable device or arrangement of gearing can be adopted for rotating the tables and also for intermittingly turning the table-carrier. For example, the lower portion of the table-carrier sleeve *c* can be provided with a loose gear K on its under side, to provide a clutch member, and this sleeve can also be provided with a lower clutch member K', which is keyed or arranged upon a spline. The table-spindles *b* and *b'* can have a shifting or sliding connection with the upwardly-projecting sleeves L and L', it being observed that these sleeves have their bearings in the ends of the arms C^2 C^3 and also that these sleeves have their lower ends provided with upper clutch members *l l'*. Coil-springs—such, for example, as shown—are preferably arranged between the upper ends of the sleeves L L' and the under sides of the arms C C'. As stated, the connection between the sleeves L L' and the stems or spindles *b b'* is preferably such as to permit relative end movement between the stems and sleeves, but not relative rotation. In this way the stems and sleeves rotate in unison; but the sleeves are capable of upward shift relatively to the stems or spindles, the lower ends of which they engage and inclose. The upper clutch members *l l'* are adapted to alternately engage the lower clutch member l^2. This lower clutch member l^2 is, it will be observed, in the nature of a pinion or gear wheel, adapted to engage the relatively larger gear-wheel K. Power is applied to the lower clutch member or gear l^2 from a belt or pulley wheel l^3 through the medium of the bevel-gearing l^4. With this arrangement the gears l^2 and K are rotating constantly, and in this way each table or rotary support is rotated as soon as its allotted upper clutch member *l* or *l'* is brought into engagement with the lower clutch member l^2. For example, in the drawings the table B is rotated by reason of its allotted clutch member *l* being in engagement with the lower clutch member l^2. It will also be seen that in this case the table B' is stationary—that is to say, it is not rotating, but is being held stationary in order to permit the fastening device to be applied to the center of the web. The gear K is provided on its under side with a cam-track *k* and on its upper side with a roll *k'*. The lower clutch member K' is operated by a lever K^2, carrying at its end a roll k^2. In operation the roll *k'* engages and lifts one of the upper clutch members *l* or *l'*, according to which one of these clutch members is in engagement with the lower clutch member l^2, and at the same time that one of the rotary tables is thus disengaged from the lower clutch member l^2 the cam G engages the roll k^2, thereby depressing the lever K^2 and in this way causing the lower clutch member K' to rise and engage the clutch teeth or jaws on the under side of the gear-wheel K. In this way each time a table rotates for its last half-turn it is automatically disconnected from the power and the power is at the same time automatically connected with the sleeve *c* through the medium of the clutch member K', and the table-carrier then rotates for a half-turn, so as to carry the table which was rotating to the opposite side of the machine and so as to simultaneously therewith bring the other table into position to receive the next set of strips from the bottom of the hopper A. In other words, the table which is below the hopper rotates twice, then stops, and the table-carrier then rotates for half a turn, so as to interchange the two tables. When the roll *k'* rides under one of the upper clutch members—for example, the clutch member *l'*, as shown in Fig. 3—it will be seen that this clutch member then rides around to the opposite side of the machine resting on this roll, and that when it arrives at such point the rotation of the table-carrier is then stopped, so as to allow the other clutch member to settle into place on the lower clutch member l^2. The gear K continues to rotate for another half-turn, and at the end of this half-turn on the part of the gear K the table last brought under the hopper has completed its last half-rotation, and the power is then disconnected from the table and reconnected with the table-carrier, so as to again rotate the table-carrier and reverse the positions of the two tables. The pins or fingers, it will be observed, are practically arranged in a plurality of sets or series, and the shifting-cams actuate or operate these different sets or series in succession. In this way a rotation of the table or support will cause one set or series of the fingers to actuate, thereby depositing and arranging the first set of slats or strips of material, and the successive rotations of the table in a similar manner operate the successive sets or series of the fingers, thereby effecting a similar dis-

position or arrangement of the successive sets of basket-slats. Furthermore, it will be seen that the principle of the machine involves the holding of the slats or strips of material in the form of a stack and that means are then provided for effecting a relative circular motion around the transverse center of the stack, so as to enable the pins or fingers or other like devices or instrumentalities to automatically and successively restrain one or more slats in such stack in successive series. In other words, each slat is given a certain amount of movement relative to the balance of the slats and is then restrained in such movement with respect to the slats or strips of material which have already been applied and arranged in partial web form. In this way it will be seen that all that is necessary is to place the strips of material in the hopper and to then start the machine. The tables are brought successively to meet the hopper, the strips of material are automatically laid upon the upper surface of the tables, and upon the completion of each web the positions of the two tables are automatically reversed, so as to bring the completed web into position to receive its fastening device.

The machine thus constructed and operated is capable of rapid and efficient work and is in this way capable of greatly reducing the cost of certain kinds of baskets. It is obvious, however, that the construction and various features of improvement of my invention are capable of more or less modification without departing from the spirit of my invention. For this reason I do not limit myself to the exact construction shown and described. Broadly considered, my invention contemplates the combination of automatic feeding and distributing devices for automatically depositing and arranging strips of material in suitable web form.

What I claim as my invention is—

1. In a machine for use in making baskets, the combination of a hopper or holder in which strips of material are held flatwise one upon another, and a rotary member carrying automatically-actuated pins or fingers adapted and arranged for engaging and successively releasing said strips of material and distributing or arranging the same in suitable web form upon the top of said rotary member, substantially as described.

2. In a machine for making basket-webs, the combination of means for properly holding the strips of material, rotary means for distributing and arranging the strips of material in suitable web form, said distributing means comprising a plurality of automatically-actuated pins or fingers adapted and arranged to engage and successively release the said strips of material, the relative movement between the said pins or fingers and the means for supporting the strips of material causing each released strip of material to stand at an angle with reference to the remaining or unreleased strips, and means for causing the desired rotary movement on the part of said distributing means, the axis of such rotary movement extending transversely through the center of the strips of material, substantially as described.

3. An automatic machine for distributing and arranging suitable strips of material in suitable web form, comprising a holder adapted to hold the strips of material in a superimposed condition, or one on top of the other, a plurality of automatically-actuated pins or fingers adapted and arranged in position to engage and successively arrange or position the said strips of material, and pivotal connections whereby to permit relative rotary movement between the said holder and the said pins or fingers, said rotary movement being about an axis extending transversely through the stack of superimposed slats or strips of material, said strips of material when released from the holder being arranged crosswise to provide a basket-web of substantially disk form, substantially as described.

4. In a machine for making basket-webs, the combination of a holder for holding the strips of material, a rotary table adapted to receive the said strips of material, pins or fingers mounted upon said rotary table, and a cam for automatically engaging and operating said pins or fingers, so as to automatically remove the strips of material from the bottom of said holder, substantially as described.

5. In a machine for making basket-webs, the combination of a holder for holding the strips of material, a rotary table adapted to receive the said strips of material, pins or fingers projecting upwardly from said table, means for actuating said pins, said actuating means being adapted to cause two of said pins or fingers to rise at a time, so as to engage and remove the lowermost strip of material from the said holder, and suitable gearing for rotating said table, substantially as described.

6. In a machine for making basket-webs, the combination of a suitable hopper or holder for holding the strips of material, a rotary table adapted and arranged to rotate about a vertical axis below said hopper or holder, upwardly-projecting pins or fingers suitably mounted for vertical reciprocation in the rim or peripheral portion of said table, springs for keeping said pins normally depressed, cams for automatically raising said pins, said cams being adapted and arranged to raise two of said pins at a time, the upper ends of the pins thus actuated or raised engaging the lowermost strip of material in said hopper or holder, gearing for rotating said table, and a clutch for automatically disconnecting the driving power from said table, substantially as described.

7. A machine for making basket-webs comprising a plurality of rotary tables, suitable means for holding the strips of material in a superimposed condition, means for rotating

one table at a time, each table being provided with upwardly-projecting pins or fingers, said pins being adapted to engage the lowermost strip of material, a carrier for intermittingly and successively bringing said tables into position to receive a suitable number of said strips of material, suitable cams or actuating devices for actuating said pins or fingers, the rotation of either table causing the pins or fingers of such table to rise two at a time, so as to release the lowermost strip of material and deposit the same upon the surface of the rotating table, suitable means for rotating said table and also said table-carrier, and suitable clutch devices for automatically connecting and disconnecting the power to and from said table and table-carrier, substantially as described.

8. A machine for making basket-webs, comprising a suitable hopper or holder for holding the strips of material, a pair of rotary tables mounted for rotation upon a rotary table-carrier, upwardly-projecting pins or fingers carried by each rotary table, cams or actuating devices adapted to engage the lower ends of said pins, the upper ends of said pins being adapted to engage the lowermost strip of material in said hopper or holder, stems or spindles on said tables, clutch members carried by said stems or spindles, a power device provided with a constantly-rotating clutch member, the clutch member carried by the table stems or spindles being adapted to alternately engage the said lower clutch member which is constantly rotating, suitable gearing between said power device and said table-carrier, a suitable clutch device between said gearing and said table-carrier, and means for automatically operating said clutch, so as to automatically disconnect the power from the rotating table and at the same time automatically connect the power with the rotary table-carrier, so as to stop the rotation of the table and start the rotation of the table-carrier, the two tables thereby being interchanged, substantially as described.

9. In a machine for making basket-webs, the combination of means for suitably holding the strips of material, a rotary table adapted to receive the said strips of material, upwardly-projecting pins or fingers carried by said table, suitable cams for engaging the lower ends of said pins, said cams being shiftable toward and away from the center of said table, so as to prevent the said pins from being engaged in direct succession, substantially as described.

10. In a machine for making basket-webs, the combination of suitable means for holding the strips of material, a rotary table adapted to receive said strips of material, suitable pins or fingers projecting upwardly from said table, said pins or fingers being arranged in a plurality of sets or series, cams for engaging the lower ends of said pins or fingers, said cams causing the fingers to move upwardly and engage the lowermost strips of material, rotary cams shifting said cams which actuate the said pins or fingers, such shifting or moving of the finger-actuating cams causing the latter to engage and operate said sets or series of fingers in succession, and means whereby the rotation of said table will cause the said rotary cams to turn or rotate to the desired extent, substantially as described.

11. In a machine for making basket-webs, the combination of a suitable holder or hopper for holding the strips of material, a rotary table adapted to receive said strips of material, suitable pins or fingers projecting upwardly from said table, said pins or fingers being arranged in a plurality of sets or series and having their upper ends adapted to engage the lowermost strips of material, actuating devices for forcing said pins upward, rotary cams for shifting said actuating devices in a direction toward and away from the center of said table, so as to cause the different sets or series of fingers to be operated in succession, finger-wheels rigid with said rotary cams, and projections on said table adapted to engage the fingers of said finger-wheels, so as to rotate said cams, substantially as and for the purpose set forth.

12. In a machine for making baskets, the combination of a holder and of a plurality of pins or fingers, the said holder and the said pins or fingers being constructed and arranged for relative movement, so as to cause the strips of material to be deposited or arranged in the desired manner, and the said pins or fingers being arranged in a plurality of sets or series, and means for operating the sets in succession, substantially as described.

13. In a machine for making basket-webs, the combination of suitable means for holding strips of material, rotary means for causing the said strips of material to arrange themselves in suitable web form, and a plurality of pins or fingers adapted and arranged to engage and determine the relative positions of the said strips of material, said pins or fingers being arranged in a plurality of sets or series, and means for operating the different sets or series successively, substantially as described.

14. In a machine for making basket-webs, the combination of a holder for holding the strips of a material in a superimposed condition, a plurality of suitably-actuated pins or fingers for engaging and determining the relative positions of the strips of material, said pins or fingers being arranged in a plurality of sets or series, and a rotary member for causing relative movement between the said holder and the said pins or fingers, so as to cause the said strips of material to arrange themselves in suitable web form, the said rotary means being adapted to rotate a number of times for the purpose of operating the different sets or series of fingers in succession, thereby effecting the desired arrangement of the strips of material forming the web, substantially as described.

15. In a machine for making basket-webs, a rotary table adapted and arranged to receive and hold the strips of material and provided with means for determining the relative positions of said strips, and a hopper arranged above said table and adapted to hold a stack or bundle of strips, the strips thus held in the hopper being successively released therefrom by the said means for determining the relative positions of the strips, substantially as described.

16. In a machine for making basket-webs, the combination of a holder for suitably holding the strips of material, rotary means for causing the strips of material to arrange themselves in suitable web form, and a series of devices for placing the strips and determining the proper relative positions of the latter, said rotary means being adapted and arranged for a plurality of rotations in effecting the desired arrangement or disposition of the strips of material forming the web, substantially as described.

17. A machine for forming webs for baskets, consisting of a frame, means for supporting a stack of staves and for imparting a relative circular motion around the transverse center of the stack to one or more staves in such stack, and means for automatically successively restraining one or more staves in such stack in successive series.

18. In a machine for making basket-webs in which the slats or strips of material are arranged crosswise in the form of a web or disk, the combination of a member adapted to hold the slats or strips of material in a superimposed or one-on-top-of-the-other condition, the slats or strips of material in this condition being parallel and in the form of a stack, automatically-actuated devices adapted to engage said slats or strips of material and successively release them from the position in which they are held by the said member, and pivotal connections whereby to permit of a relative rotary movement between said member and said automatically-actuated devices for engaging the slats or strips of material, such rotary movement being about an axis extending transversely through the stack or bundle of slats or strips of material.

Signed by me at St. Joseph, Berrien county, Michigan, this 28th day of September, 1901.

PHILLIP FRED. LINDT.

Witnesses:

JOHN EKLUND,

JULIUS J. MILLER.