

No. 730,920.

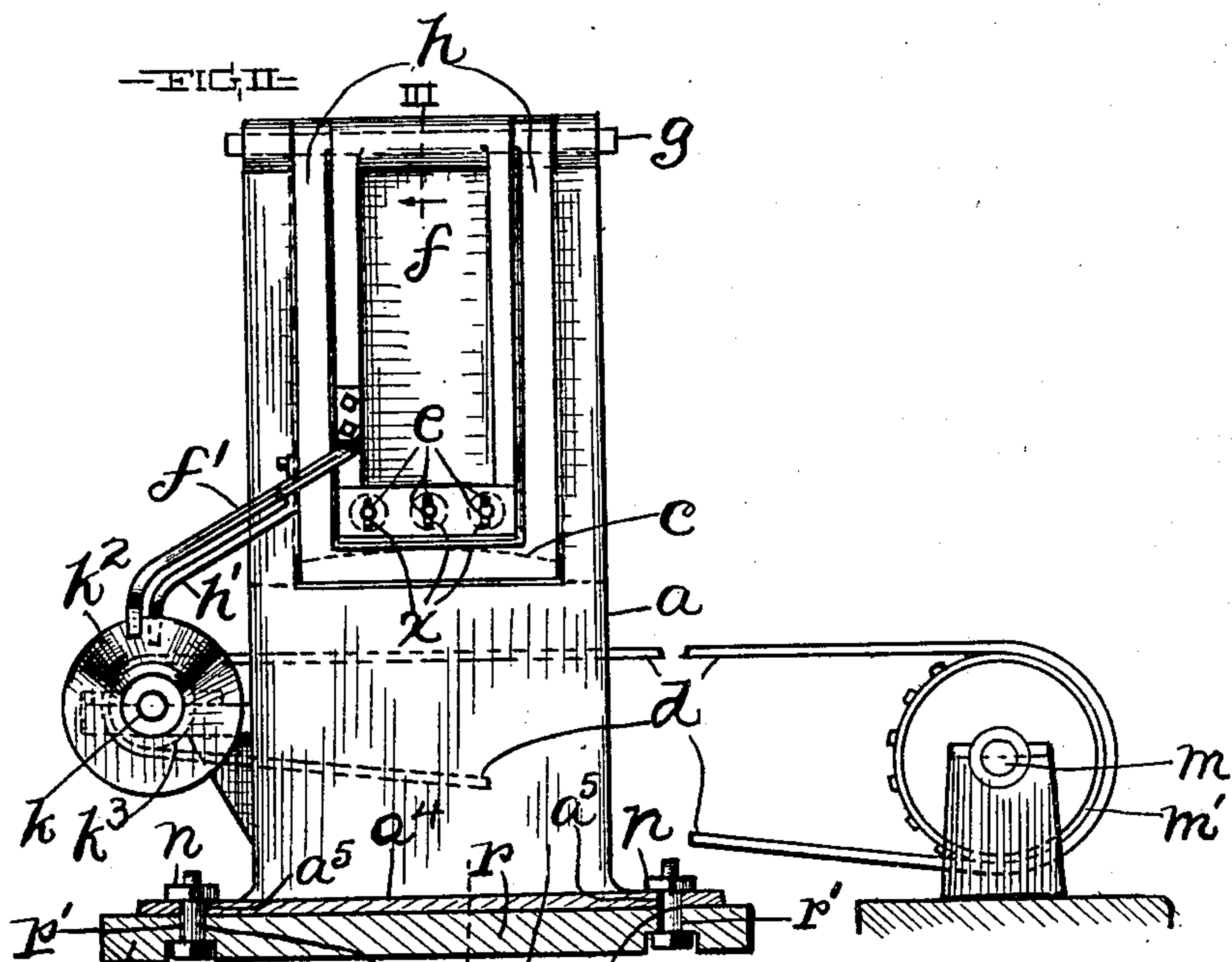
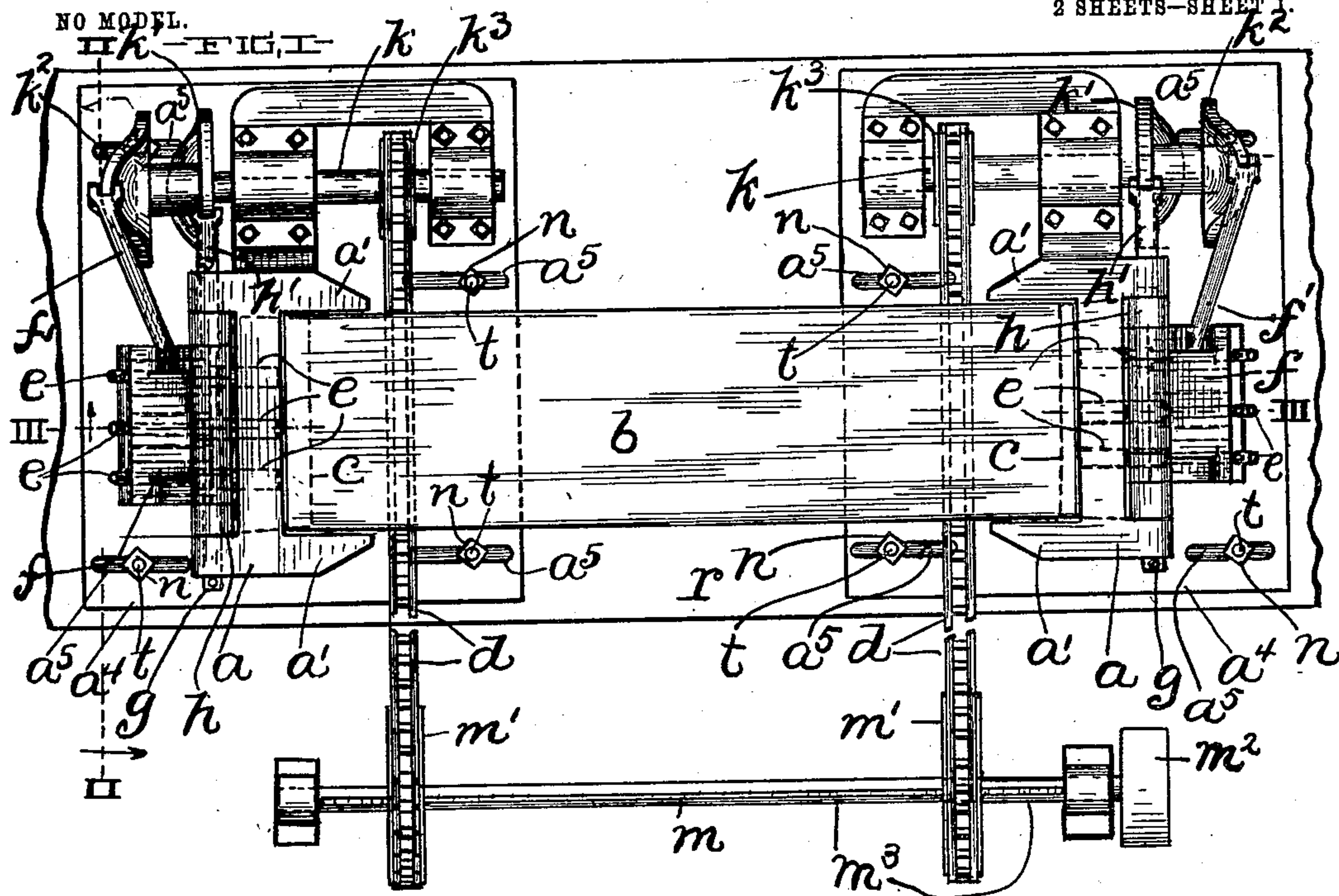
PATENTED JUNE 16, 1903.

P. J. JOECKEN.
FEEDING APPARATUS FOR WOOD STRIPS.

APPLICATION FILED MAR. 31, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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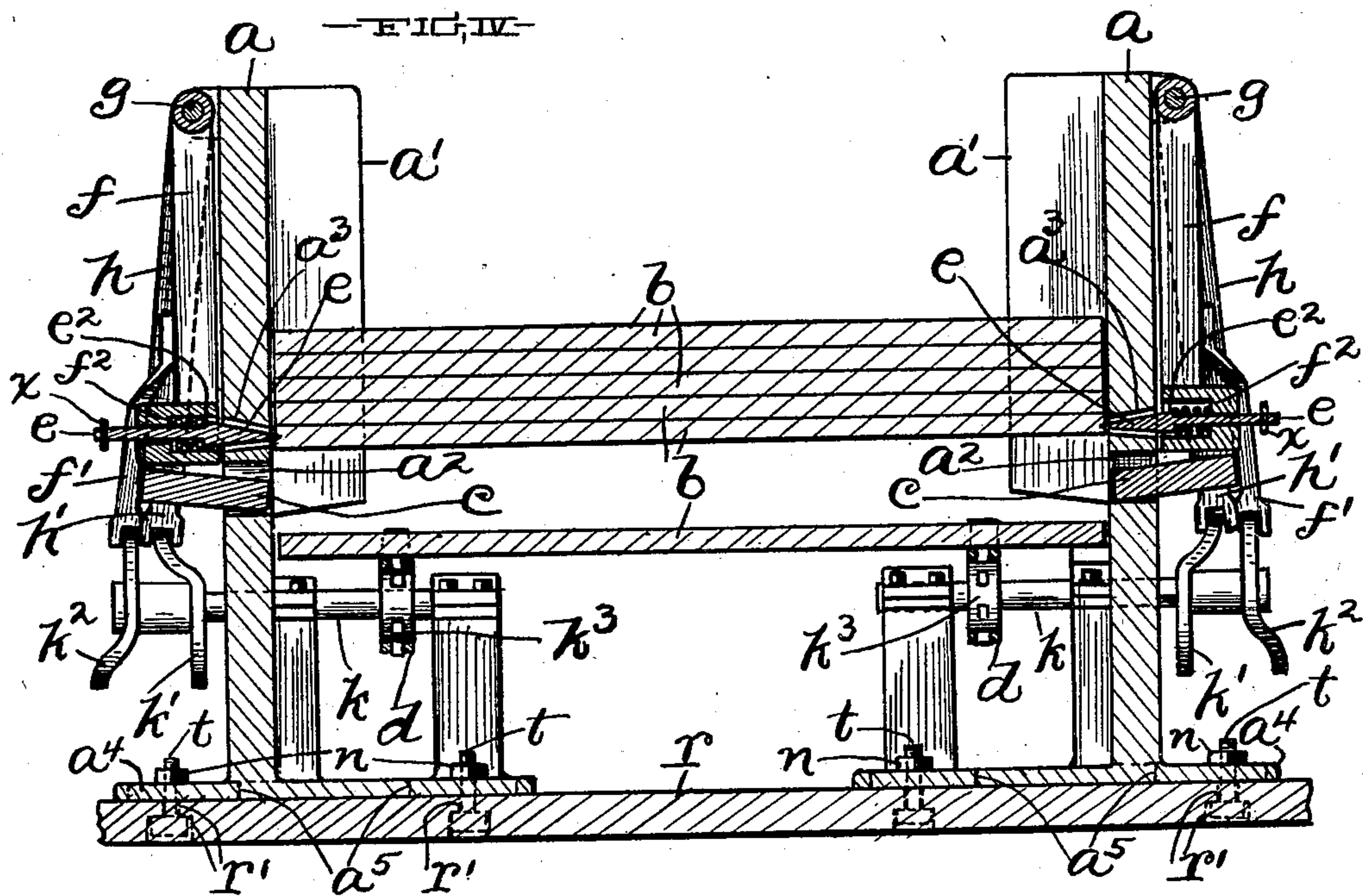
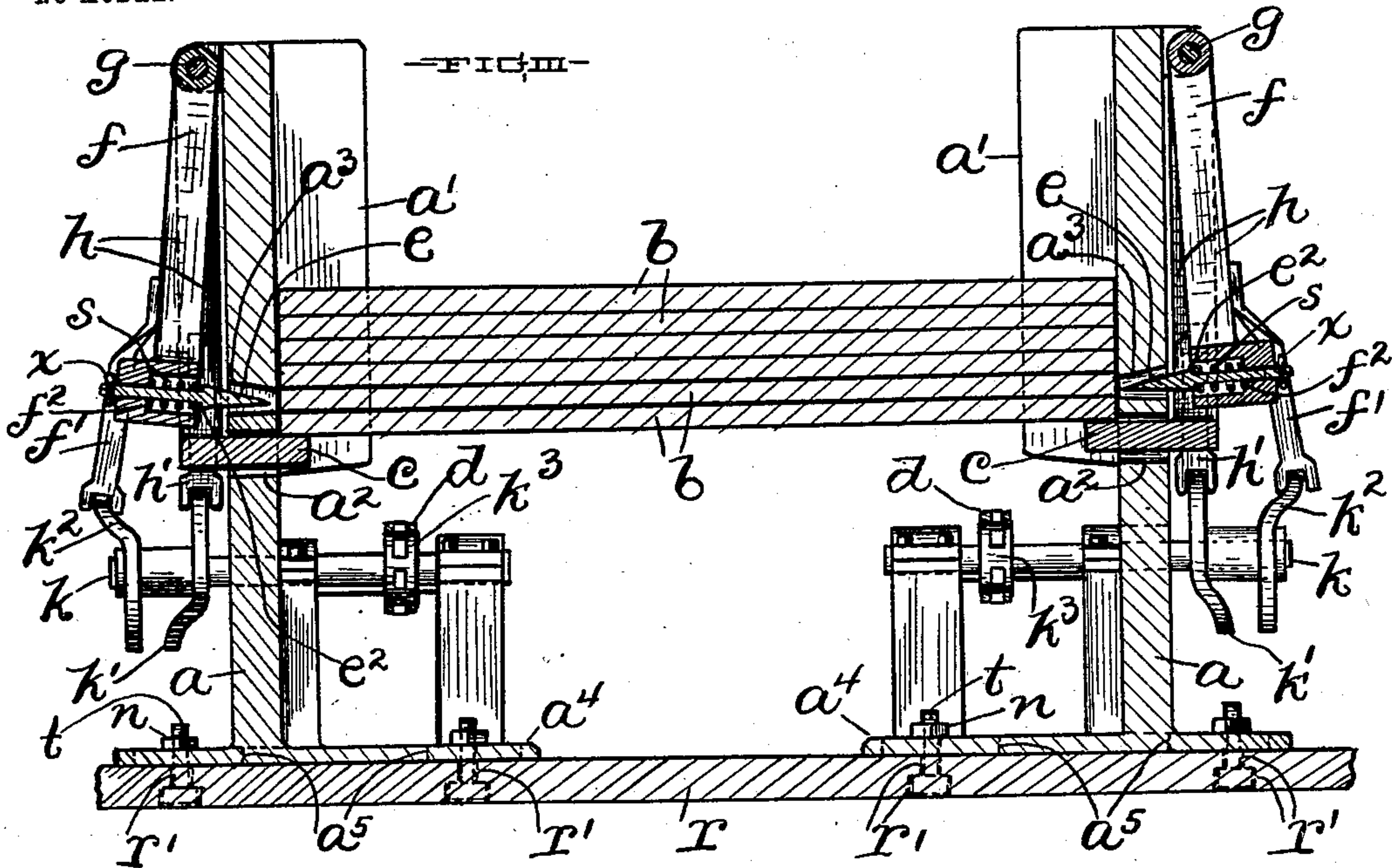
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WITNESSES:

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UNITED STATES PATENT OFFICE.

PETER J. JOECKEN, OF CLEVELAND, OHIO, ASSIGNOR TO THE PETER GERLACH COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

FEEDING APPARATUS FOR WOOD STRIPS.

SPECIFICATION forming part of Letters Patent No. 730,920, dated June 16, 1903.

Application filed March 31, 1902. Serial No. 100,749. (No model.)

To all whom it may concern:

Be it known that I, PETER J. JOECKEN, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Apparatus for Feeding Strips or Bars of Wood or other Material; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in apparatus for feeding strips or bars of any material, and pertains more especially to apparatus which is well adapted for feeding staves to an endless carrier or conveyer.

The object of this invention is to provide apparatus of the character indicated, which will feed intermittently, which is simple and durable in construction, and reliable in its operation.

With this object in view and to the end of realizing other advantages hereinafter appearing my invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure I is a top plan of apparatus embodying my invention. Fig. II is a left-hand side elevation relative to Fig. I, partly on line II II, Fig. I. Fig. III is a vertical section on lines III III, Figs. I and II. Fig. IV is a vertical section corresponding with Fig. III, except in the position of the movable parts.

The apparatus illustrated comprises two standards *a* and *a*, which are placed vertically and a suitable distance apart laterally. Each standard *a* is provided upon its inner side with two inwardly-projecting parallel flanges *a'*, which extend vertically of the standard and are arranged a suitable distance apart transversely of the standard. The standards *a*, with their flanges *a'*, form a hopper which is uniform or approximately uniform in dimensions from top and bottom, open at the top and bottom, and open also and preferably, but not necessarily, between opposite flanges *a'* of the different standards *a*, respectively. The standards *a* are far enough apart to accom-

modate the placing of the staves or other strips or bars *b* of wood or metal, which are to be fed by my improved apparatus, longitudinally between the said standards. The bars or strips *b* are piled between the standards *a* upon two shelves *c*, which are movable within and laterally of the different standards, respectively, and the path of the strips or bars *b* is downwardly to an endless conveyer or carrier comprising two endless chains *d*, arranged a suitable distance apart laterally between and below the travel of the said shelves. The standards *a* are slotted laterally, as at *a*², to accommodate the location and operation of the shelves *c*, which are actuated simultaneously from or toward each other, as will hereinafter appear. The shelves project in their extreme inner position, as shown in Figs. I and III, into the path of the bars or strips *b* and extend under opposite ends, respectively, of the lowermost strip or bar *b* of the pile of bars or strips *b* between the standards *a* and support the said pile. The shelves *c* in their extreme outer position, as shown in Fig. IV, are outside of the path of the members of the said pile and obviously do not support the pile, which is then supported by detents *e*.

Above each shelf *c* are a series or plurality of movable detents *e*, which are arranged such a distance above the said shelf as to accommodate only the thickness of one bar or strip *b* between the travel or sweep of the shelves *c* and the path or sweep of the said detents, as shown in Fig. III. The detents *e* above each shelf *c* are arranged directly opposite the detents *e* above the other shelf *c* and are actuated simultaneously with, but in a direction opposite to, the actuation of the last-mentioned detents, as will hereinafter more fully appear. The detents *e* are in their extreme outer position arranged outside of the path of the strips or bars *b*, as shown in Figs. I and III, and in their extreme inner position extend far enough into the said path to cause them to bite or arrestively engage the adjacent end of the adjacent bar or strip *b* and support the pile of strips or bars *b* remaining between the standards *a* over the said engaged strip or bar which is then the lowermost member of the said pile, as shown in Fig. IV. The standards *a* are slotted laterally, as at *a*³, to

accommodate the location and operation of the detents *e*.

Each standard *a* is provided at its upper end and upon its outer side with two aprons *f* and *h*, arranged the former within the latter and pivoted at their upper ends horizontally and transversely of the said standard preferably by one and the same pin *g* to the said standard, and the shelf *c*, which is movable within the said standard, is rigid and preferably integral with the said outer apron *h*, which has an arm *h'* operatively engaging a cam *k'*, with which a suitable applied shaft *k*, which is driven by the adjacent chain *d* of the aforesaid endless carrier or conveyer, is provided. The said inner apron *f* carries the detents *e*, which are movable within the said standard, and has an arm *f'*, which operatively engages a cam *k''*, with which the said shaft *k* is provided. There are therefore two shafts *k* and *k*, arranged in line endwise and a suitable distance apart and adjacent to the different standards *a*, respectively, and two corresponding sprocket-wheels *k''* and *k''* are operatively mounted on the different shafts *k* and *k*, respectively, and operatively engage the different chains *d* and *d*, respectively. The chains *d* lead from the wheels *k''* to and operatively engage sprocket-wheels *m'*, which are operatively and slidably mounted on a suitably-applied shaft *m*, which is operatively provided with a driving-pulley *m''*, to which power is applied in any approved manner. Operative engagement between the wheels *m'* and the shaft *m* is shown established by the well-known means of groove and feather, as at *m''*, (see Fig. I,) so that the said wheels *m'* can be adjusted apart to correspond with the distance between the wheels *k''*.

A bed-plate *r* extends under both standards *a* and each standard *a* has a base *a''*, which rests upon the said plate. The base *a''* is secured to the bed-plate *r* by bolts *t* and nuts *n*, which bolts are arranged with their heads adapted to bear against the under side of the bed-plate and with their shanks extended upwardly through corresponding holes *r'*, formed in the said plate, and upwardly through slots *a'''*, formed in the aforesaid base and the said nuts are mounted on the shanks of the bolts at the upper side of the said base and the aforesaid slots are arranged parallel with the strips or bars *b* piled between the standards *a*, and consequently the said standards upon loosening the nuts *n* are rendered free to be adjusted apart to accommodate the length of the bars or strips *b* which are to be fed to the endless conveyer or carrier from between the said standards, which are secured in the desired adjustment upon tightening the said nuts.

The cam-shaft *k*, instrumental in the operation of shelf *c* and detents *e* within a standard *a*, is supported in any approved manner from the base of the said standard, and consequently both shafts *k* are shifted as required with the standards during the adjust-

ment of the standards toward or from each other. The flanges *a'* of the standards are arranged far enough above the endless carrier or conveyer to avoid interference with the said conveyer or carrier in adjusting the standards *a* upon the bed-plate.

By the construction hereinbefore described it will be observed that the chains *d* are driven in unison during the operation of the shaft *m*, and through the medium of the sprocket-wheels *k''* rotate the shafts *k* in unison, and the arrangement of the parts and the trend of the working surfaces of the cams *k'* and *k''* are such that the two shelves *c* and the detents *e* are simultaneously actuated; that the said shelves are actuated alternately into and out of the path of the bars or strips *b* introduced between the standards; that the detents *e* are actuated alternately into and out of the said path; that the shelves at the commencement of the operation of the apparatus are in their inner or operative position and support the bars or strips *b* dropped or introduced between the standards *a*, as shown in Figs. I and III; that the detents *e* at the beginning of the operation of the apparatus are in their outer and inoperative position out of the path of the said strips or bars, as shown in Figs. I and III; that the detents *e* move inwardly into their inner and operative position during the movement of the shelves *c* into their outer and inoperative position; that the lowermost strip or bar *b* drops onto the chains *d* of the endless carrier or conveyer upon the actuation of the said shelves into their outer and inoperative position; that the next lowermost bar or strip *b* is arrestively engaged at the ends by the detents *e* during the actuation of the said detents into their inner and operative position, and consequently only one bar or strip *b* drops at a time from above the shelves *c* onto the aforesaid carrier or conveyer during the operation of the apparatus.

The detents *e* have their ends preferably somewhat sharp or tooth-shaped to render them capable of biting, and thereby more positively engaging the next lowermost bar or strip *b* during their operation.

To accommodate imperfections in the ends of the strips or bars *b* placed between the standards, or slight variations in the length of the said bars or strips, and to avoid the necessity of exercising nice care in placing the said strips or bars between the standards, and to avoid splitting or mutilation of the ends of the said bars or strips, the detents *e* are capable of yielding endwise against the action of suitably-applied spring *s* or equivalent means. (See Figs. III and IV.) Preferably each detent *e* extends through and has bearing in the lower or free end of the inner apron *f*, which carries the said detent, and a spiral spring *s* is coiled upon the said detent and confined between a shoulder *f''*, formed in the said apron, and a shoulder *e''*, formed upon the said detent between the aforesaid shoulder *f''* and

the inner or forward end of the detent, and a stop-forming pin x extends through the outer end of the said detent at the outer side of the said apron f and in the outer and inoperative position of the said detent engages the said side of the said apron, as shown in Fig. III, and thereby limits the inward movement of the detent independently of the apron.

What I claim is—

1. Feeding apparatus of the character indicated, comprising two standards arranged a suitable distance apart; two laterally-swingable aprons arranged at the outer side of each standard and supported and depending from the upper end of the said standard; a shelf supported from the lower end of one of the said aprons and having its sweep, during the operation of the shelf-bearing apron, extending into the space or chamber formed between the standards, and detents supported from the lower end of the other of the said aprons and having their sweep, during the operation of the detent-bearing apron, extending into the aforesaid space or chamber, and mechanism for simultaneously operating the said aprons, and the arrangement of the parts being such that the shelves and the detents of both standards are simultaneously actuated, that the said shelves are simultaneously actuated toward or from each other, that the detents are actuated into their inner and operative position during the actuation of the shelves into their outer and inoperative position and move into their outer and inoperative position during the movement of the shelves into their inner and operative position, substantially as and for the purpose set forth.

2. Feeding apparatus of the character indicated, comprising two standards arranged a suitable distance apart; two laterally-swingable aprons arranged at the outer side of each standard and supported and depending from the upper end of the said standard; a shelf supported from the lower end of one of the said aprons and having its sweep, during the operation of the shelf-bearing apron, extending into the space or chamber formed between the standards, and detents supported from the lower end of the other of the said aprons and having their sweep, during the operation of the detent-bearing apron, extending into the aforesaid space or chamber, and cam mechanism for simultaneously operating the aprons of both standards, and the arrangement of the parts being such that the shelf-bearing and the detent-bearing apron of each standard are simultaneously actuated in opposite directions, respectively, that the shelf-bearing aprons of both standards are simultaneously actuated toward or from each other, that the detents are in their inner and operative position when the shelves are in their outer and inoperative position and are in their outer and inoperative position when the shelves are in their inner and operative position, substantially as and for the purpose set forth.

tion, substantially as and for the purpose set forth.

3. Feeding apparatus of the character indicated, comprising two standards arranged a suitable distance apart and adjustable toward and from each other; two laterally-swingable aprons arranged at the outer side of each standard and supported and depending from the upper end of the said standard; a shelf supported from the lower end of the said aprons and having its sweep, during the operation of the shelf-bearing apron, extending into the space or chamber formed between the standards, and detents supported from the lower end of the other of the said aprons and having their sweep, during the operation of the detent-bearing apron, extending into the aforesaid space or chamber, and mechanism adapted to operate the said aprons and supported from the apron-bearing standard, and the arrangement of the parts being such that the shelves and the detents of both standards are simultaneously actuated, that the shelves simultaneously move toward or from each other, that the detents are moved into their inner and operative position during the movement of the shelves into their outer and inoperative position and move into their outer and inoperative position during the movement of the shelves into their inner and operative position, substantially as and for the purpose set forth.

4. Feeding apparatus of the character indicated, comprising two standards arranged a suitable distance apart; two aprons arranged at the outer side of each standard and horizontally pivoted, at their upper ends, to and transversely of the upper portion of the said standard; a shelf upon the lower end of one of the said aprons and having its sweep, during the operation of the shelf-bearing apron, extending into the space or chamber formed between the standards, and detents supported from the lower end of the other of the said aprons and having their sweep, during the operation of the detent-bearing apron, extending into the aforesaid space or chamber; two cam-shafts arranged in line endwise adjacent the different standards, respectively, and provided, respectively, with two cams; means rotating the said shafts in unison; operative connections between the aprons of each standard and the different cams, respectively, of the adjacent shaft, and the arrangement of the parts and the trend of the cams being such that the aprons of each standard are actuated simultaneously in opposite directions, respectively, and that the shelf-bearing aprons of both standards simultaneously move toward or from each other, substantially as and for the purpose set forth.

5. Feeding apparatus of the character indicated, comprising two standards arranged a suitable distance apart; two aprons arranged at the outer side of each standard and pivoted at their upper ends, to and transversely of

the upper portion of the said standard; a shelf formed upon the lower end of one of the said aprons and having its sweep, during the operation of the shelf-bearing apron, extending
 5 into the aforesaid space or chamber formed between the standards, and detents supported from the lower end of the other of the said aprons and having their sweep, during the operation of the detent-bearing apron, extend-
 10 ing into the aforesaid space or chamber; two cam-shafts arranged in line endwise adjacent the different standards, respectively, and provided, respectively, with two cams; a suitably-actuated endless carrier or conveyer ar-
 15 ranged between the standards at an elevation below the aprons of the standards and operatively connected with the cam-shafts, and the arrangement of the parts and the trend of the
 20 cam being such that the aprons of each stand-ard are actuated simultaneously in opposite directions, respectively, and that the shelf-bearing aprons of both standards move simul-
 25 taneously toward or from each other, substantially as and for the purpose set forth.

2, 6. Feeding apparatus of the character indicated, comprising two standards arranged a
 30 suitable distance apart; two aprons arranged one within the other at the outer side of each standard and pivoted, at their upper ends, to
 35 and transversely of the upper portion of the said standard; a shelf borne by the lower end of the outer apron and having its sweep, during the operation of the shelf-bearing apron,
 40 extending into the space or chamber formed between the standards, and detents supported from the lower end of the inner apron and having their sweep, during the operation of the detent-bearing apron, extending into the
 45 aforesaid space or chamber, and mechanism for simultaneously operating the aprons of both standards, and the arrangement of the parts being such that the aprons of each stand-

ard are actuated simultaneously in opposite directions, respectively, and that the shelf-bearing aprons of both standards move simul-
 45 taneously toward or from each other, substantially as and for the purpose set forth.

7. Feeding apparatus of the character indicated, comprising two standards arranged a
 50 suitable distance apart and respectively provided, upon their inner sides, with two upright flanges arranged a suitable distance apart transversely of the respective standard; two
 55 aprons arranged one inside the other at the outer side of each standard and pivoted, at their upper ends, to and transversely of the upper end of the said standard; a shelf borne
 60 by the lower end of the outer and longer apron and having its sweep extending into the space or chamber formed between the standards; endwise-movable detents carried by the lower
 65 end of the inner and shorter apron and having a sweep extending into the aforesaid space or chamber; suitably-applied springs acting to move the detents inwardly from and inde-
 70 pendently of the detent-bearing apron; a stop for limiting the inward movement of the detents independently of the detent-carrying apron, and mechanism for simultaneously ac-
 75 tuating the aprons of each standard in opposite directions, respectively, and the arrangement of the parts being such that the shelf-bearing aprons or the detent-bearing aprons of both standards shall, during the operation of the apparatus, move simultaneously toward
 80 or from each other.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, this 12th day of March, 1902, at Cleveland, Ohio.

PETER J. JOECKEN.

Witnesses:

C. H. DORER,
 G. M. HAYES.