

H. A. KREFT.
MACHINE FOR ARRANGING RECTANGULAR ARTICLES IN PAIRS.
APPLICATION FILED JUNE 1, 1909.

966,566.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

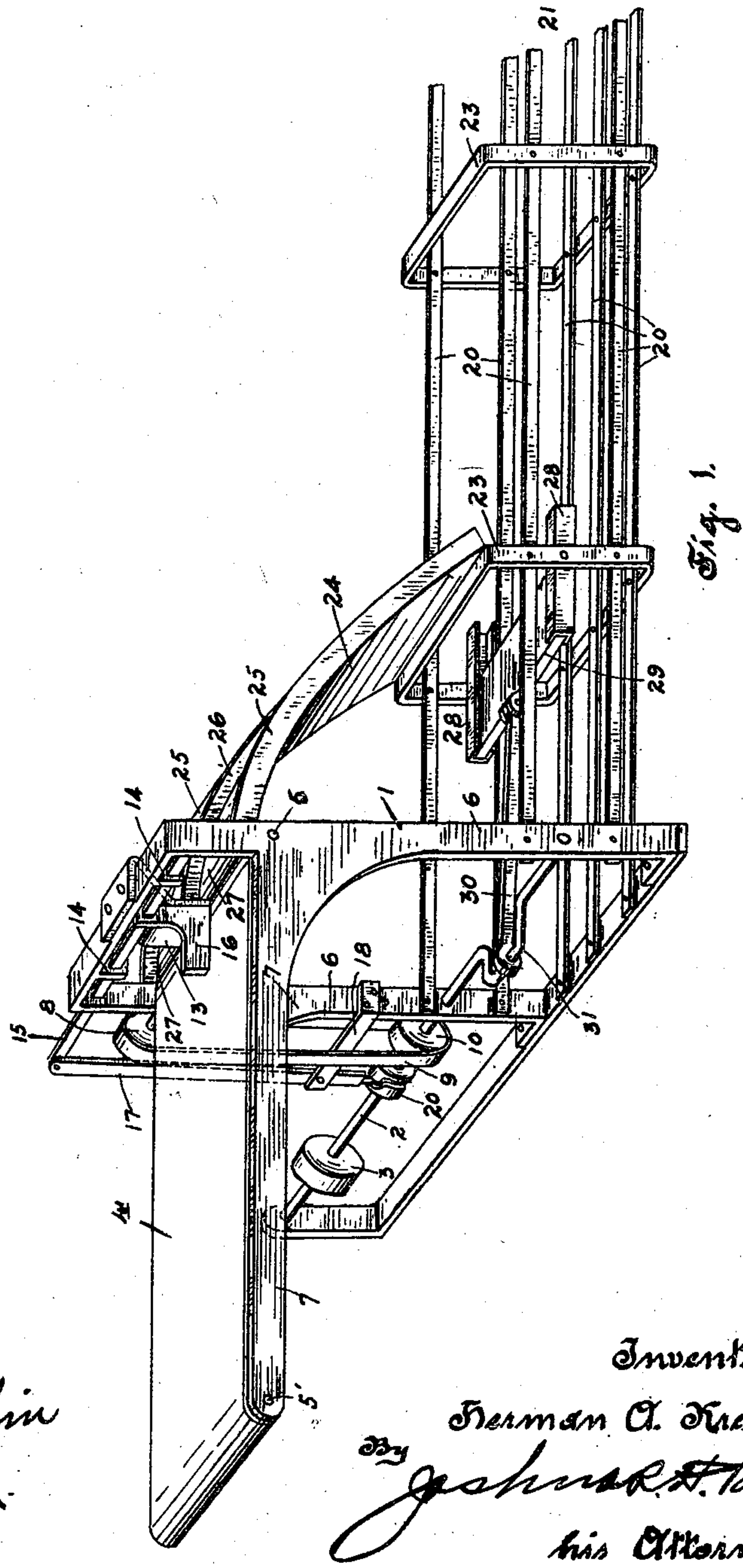


Fig. 1.

Witnesses:
H. St. Griffin
A. A. Olson

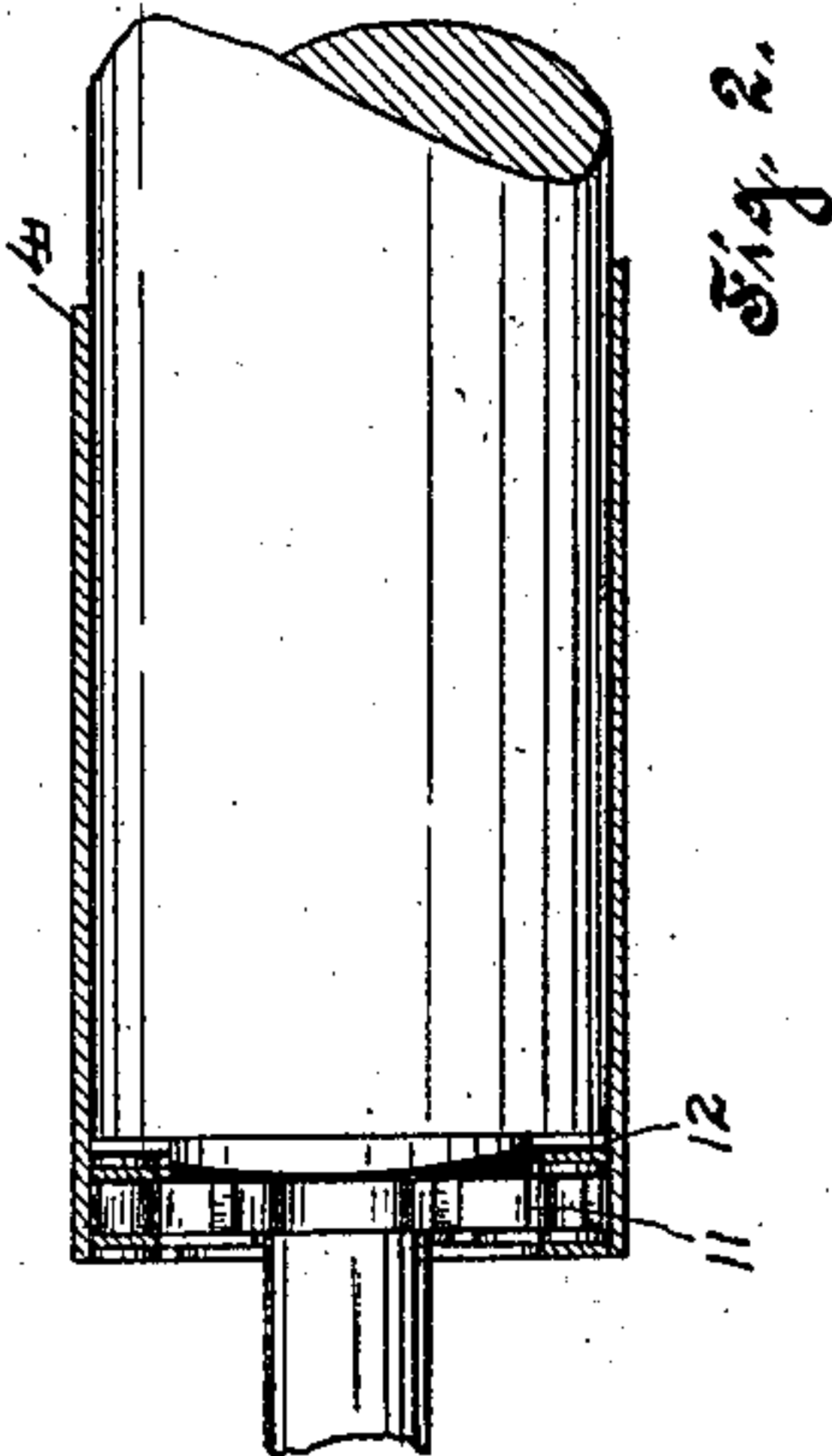
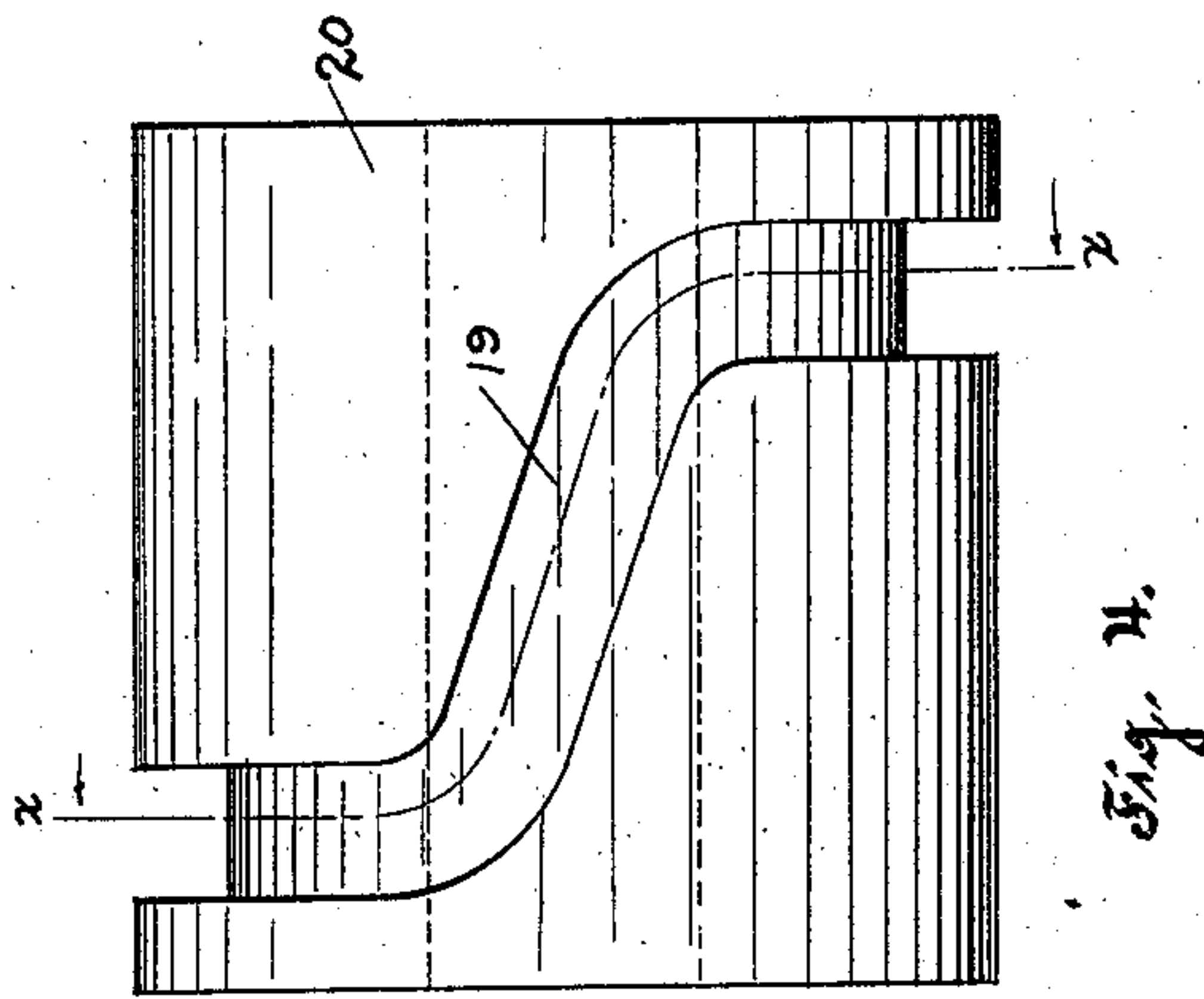
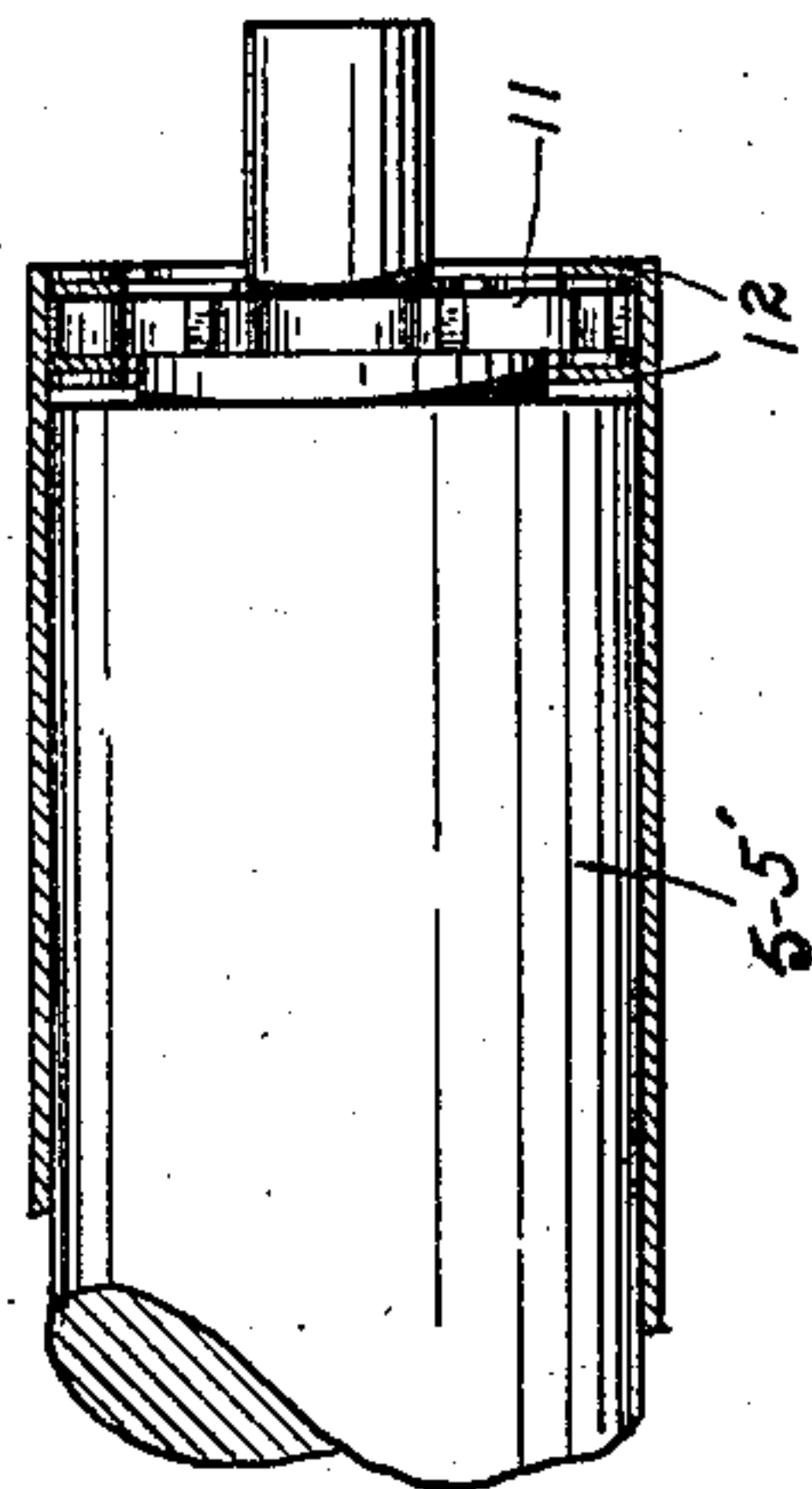
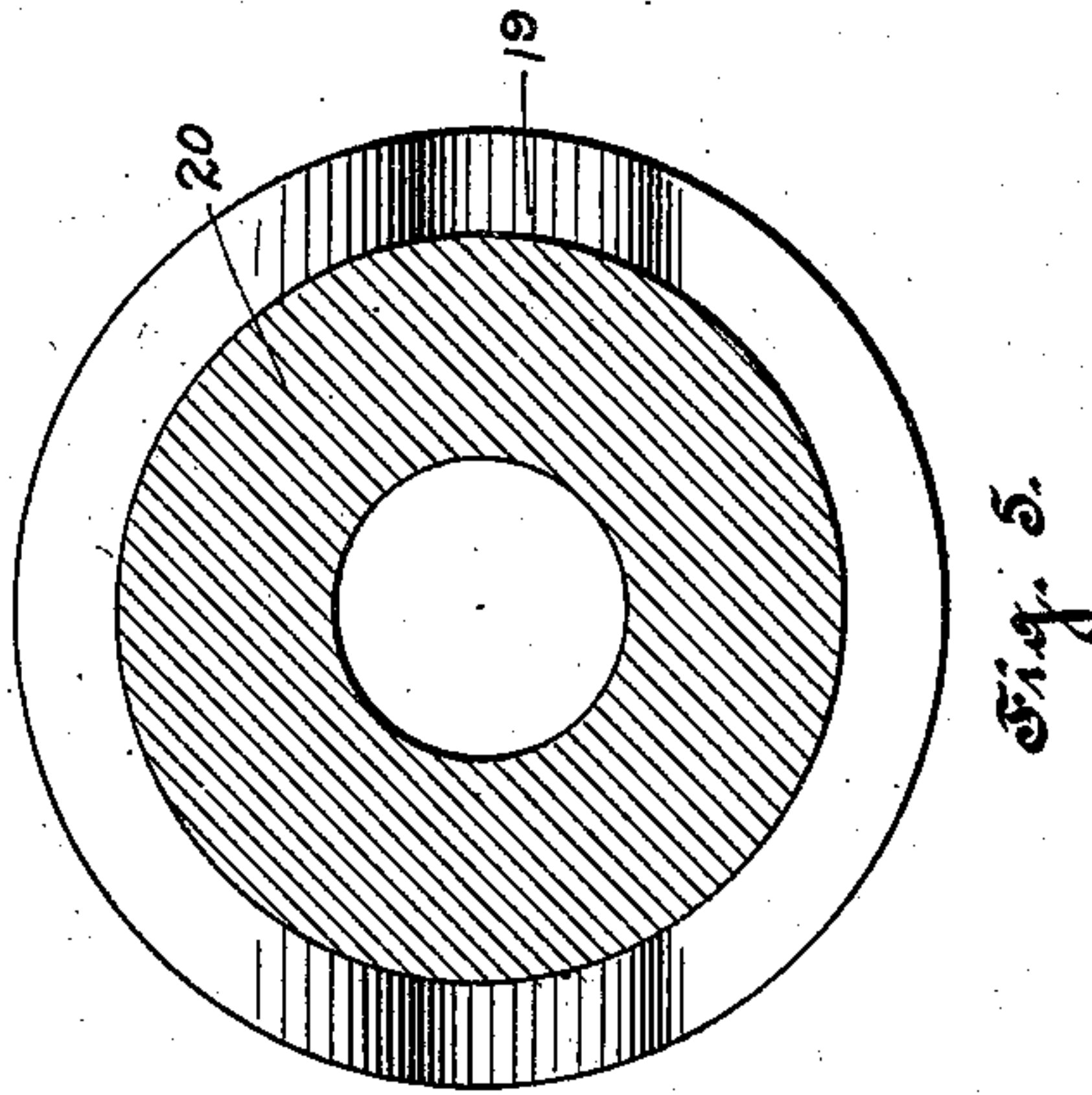
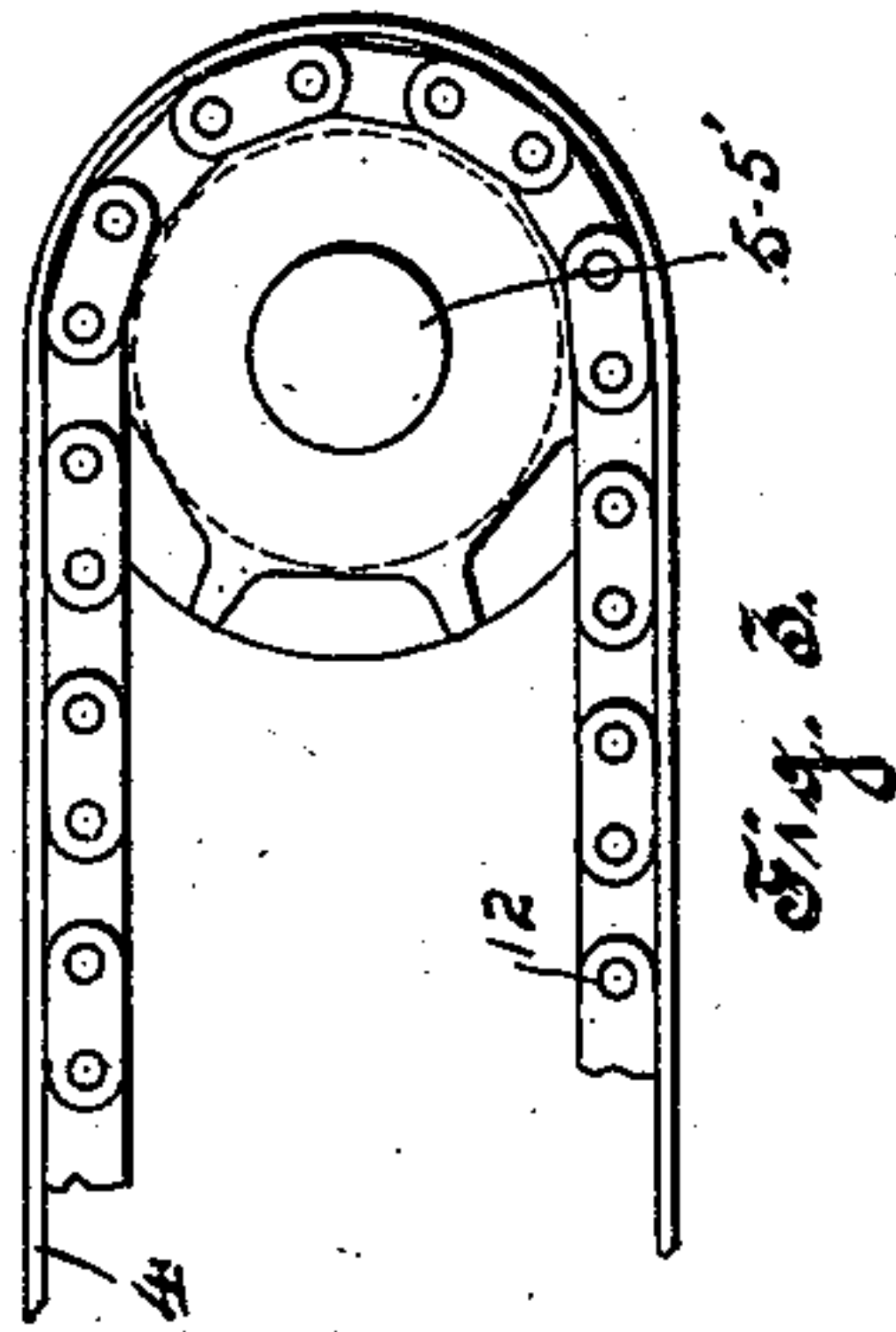
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HERMAN A. KREFT, OF CHICAGO, ILLINOIS.

MACHINE FOR ARRANGING RECTANGULAR ARTICLES IN PAIRS.

966,566.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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To all whom it may concern:

Be it known that I, HERMAN A. KREFT, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a certain new, useful, and Improved Machine for Arranging Rectangular Articles in Pairs, of which the following is a specification.

My invention relates to machines for arranging articles of a rectangular form in pairs preparatory to and to facilitate expeditious packing thereof.

The object of my invention is to provide a machine of the character mentioned especially designed for use in the arrangement of bars of soap in the manner stated preparatory to the packing thereof for shipment.

A further object is to provide a machine as mentioned which will be entirely automatic in its operation and which will be strong and durable and of comparatively simple and inexpensive construction.

Other objects will appear hereinafter.

With these objects in view my invention consists in a machine characterized as above mentioned and in certain details of construction and arrangement of parts all as will be hereinafter fully described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a perspective view of my device in its preferred form, Fig. 2 is an enlarged detail of one of the rollers over which travels an endless belt embodied in the machine, Fig. 3 is an end elevation thereof, Fig. 4 is an enlarged detail of a cam wheel included in the machine, and Fig. 5 is a transverse section taken on the line $x-x$ of Fig. 4.

Referring now to the drawings, 1 indicates a supporting framework in the upper end portion of which is rotatably mounted a horizontally extending shaft 2, the same being driven by any suitable means (not shown) preferably, although not necessarily, through the medium of the pulley 3.

4' indicates an endless belt traveling over rollers 5 and 5' mounted respectively in the upper portion of the vertically extending bars 6 of the frame 1, and in the rearward end portion of horizontally extending arms 7 rearwardly projecting from said bars of said frame. A pulley 8 fixed to the shaft

of the roller 5' and a belt 9 traveling over said pulley and a pulley 10 fixed to the shaft 2 effects an operative or driving connection between the latter and the belt 4'. However, I do not wish to limit myself to the precise driving connection shown inasmuch as a chain and sprocket or other suitable connection might be incorporated if desired. In order to insure a positive and certain driving of the belt 4' by the rollers 5 and 5', I preferably provide at either of the extremities of each of the latter, sprocket wheels 11, traveling over, and extending between, which are chains 12 to which are suitably secured the longitudinal edges of said belt. Such connection, it is evident, effects the purpose above stated.

Suitably secured, preferably to the upper cross bar of the frame 1, is a plate 13, the same being so arranged that the vertically disposed lower end portion thereof is positioned directly over the roller 5 and midway the extremities thereof. Reciprocally mounted in the upper end portion of the frame 1, preferably in slotted lugs 14 depending from the upper cross bar of said frame, is a horizontally extending rod 15. Carried by said rod is a blade 16 so positioned thereon as to be reciprocated transversely of the horizontal central line of the belt 4 equally distant either side thereof, the entire extent of such vibration of said plate being slightly greater than the length of the plate 13. In order to effect intermittent reciprocation of the rod 15, a vertically extending arm 17 rockingly mounted upon the outer extremity of a supporting member 18 secured to and laterally projecting from the frame 1, is provided. The upper extremity of said arm being in pivotal connection with the outer extremity of the rod 15, the lower extremity thereof engaging the irregular groove 19 in a cam wheel 20 carried by the shaft 2, the stated reciprocation of the rod 15 is evidently effected.

Extending in vertical alinement with the belt 4', the rearward extremity thereof being preferably secured to the lower end portion of the frame 1, is a guide receptacle 21 rectangular in cross section, and formed preferably of metallic strips 21 supported at intervals by rectangular frames 23. Having its upper extremity communicating with the forward extremity of the belt 4' and its lower extremity with the guide receptacle 21 is an inclined chute 24 of a width at its

upper extremity the same as that of said belt and at its lower extremity equal to that of said receptacle. Flanges 25 are provided at the longitudinal edges of said chute and
 5 a similar flange 26 is provided midway said flanges 25 which divides the upper surface of the chute into two independent passages 27 of equal widths.

Having its lateral edges slidably mounted
 10 in channels 28 suitably secured in the receptacle 21 is a preferably rectangular member 29. A connecting rod 30 having its forward extremity pivotally secured to the member 29 and its rearward extremity suitably con-
 15 nected to a crank 31 formed in the shaft 2, is evidently adapted upon the rotation of the latter to impart reciprocatory motion to said member 29. The latter is so mounted in the receptacle 21 that, when in a position at
 20 the rearward limit of its movement, as shown in Fig. 1, the forward edge thereof will be disposed in a vertical plane rearward of that including the forward edge of the chute 24, for reasons which will be obvious from the
 25 following.

In operation, the device is preferably arranged with the rearward or outer extremity of belt 4' positioned adjacent a machine which deposits rectangular bars of for in-
 30 stance soap, in longitudinal alinement centrally upon said belt. Such bars are carried forward by said belt until they abut the plate 13, the latter acting as a stop therefor. Upon reaching such position suc-
 35 cessive bars, because of the blade 16, are alternately forced to the right and left and thence carried by the belt 4 and delivered into the passages 27 of the chute 24. The same descend said chute and are directed for
 40 deposition into the receptacle 21 directly forward of the member 29. The reciprocation of the member 29 is so timed that, upon a pair of bars being deposited side by side in the guide receptacle, said member will
 45 travel forward forcing said bars forwardly in the receptacle to such an extent as to permit of the deposition of a succeeding pair of bars therein upon the return movement of said member. Thus it will be seen that, by
 50 the provision of the mechanism described, the bars deposited upon the belt 4 will be automatically arranged in the receptacle 21 in such a manner as to be convenient for the seizure thereof by a packer, who will be sta-
 55 tioned at the forward extremity of the guide receptacle, in the packing thereof for shipment.

While I have shown what I deem to be the preferable form of my machine I do not
 60 wish to be limited thereto as there might be many changes made in the details of construction and arrangement of parts without departing from the spirit of the invention comprehended within the scope of the ap-
 65 pended claims. And although I have de-

signed my device with special reference to its use in connection with the packing of soap I may use the same in the similar arrangement of any other articles to which it is applicable.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a machine of the class described, the combination of a chute, a guide receptacle in
 75 communication with the lower extremity of said chute, means for conveying and delivering objects to said chute, means coöperative with said chute and said conveying means for causing the objects carried by said con-
 80 veying means to be deposited in pairs into said receptacle, and means for forcing forwardly in said receptacle each pair of objects deposited therein, substantially as described.

2. In a device of the class described, the combination of a supporting frame and a drive shaft rotatably mounted in said frame, an endless belt in operative connection with
 90 said drive shaft, a guide receptacle positioned below and in vertical alinement with said belt, a chute establishing communication between said belt and said receptacle, means for causing objects carried by said
 95 belt and delivered to said chute to be deposited in pairs in said receptacle, and means for forcing forwardly in said receptacle each pair of objects deposited therein, substantially as described.

3. In a machine of the class described, the
 100 combination of an inclined chute having two passages in its upper surface, a guide receptacle in communication with the lower extremity of said chute, an endless belt communicating with the upper extremity of said
 105 chute for conveying objects deposited thereon to said chute, means reciprocating transversely of said belt for causing successive objects carried upon said belt to be delivered alternately to the passages of said
 110 chute, and means for forwardly forcing pairs of said objects deposited into said receptacle, substantially as described.

4. In a machine of the class described, the
 115 combination of an inclined chute having two passages in its upper surface, a guide receptacle in communication with the lower extremity of said chute, a horizontally disposed endless belt communicating with the
 120 upper extremity of said chute for conveying objects deposited thereon to said chute, a plate reciprocating transversely of said belt adapted to force objects carried by said belt alternately to the left and right so as to
 125 cause successive of said objects to enter different passages of said chute, and means provided in said guide receptacle for forcing forwardly bars of said objects deposited therein, substantially as described.

5. In a machine of the class described, the 130

combination of a supporting frame, a drive shaft rotatably mounted in said frame, an endless belt supported in said frame in operative connection with said shaft, an inclined chute having two passages formed in its upper surface and having its upper extremity communicating with said belt, means for causing successive objects deposited upon and carried by said belt to be delivered alternately to the different passages of said chute, said means comprising a vertically extending blade disposed longitudinally over said belt, means operatively connected with said drive shaft for imparting intermittent transverse reciprocatory motion to said blade, a guide receptacle in communication with the lower extremity of said chute, and reciprocating means operatively connected with drive shaft for forcing forwardly in said receptacle bars of objects deposited therein from said chute, substantially as described.

6. In a machine of the class described, the combination of a supporting frame, a drive shaft carried thereby, a vertically disposed endless belt in operative connection with said drive shaft, an inclined chute having

two passages formed in its upper surface communicating with one extremity of said belt, a vertically disposed stationary plate positioned centrally and transversely above and in close proximity with the upper surface of said belt, a reciprocating bar positioned above and transversely of said belt, a blade depending therefrom into close proximity with said belt, a rocker arm pivoted to said frame, and connected at one extremity with said bar, a cam wheel fixed to said drive shaft engaging the extremity of said rocker arm and adapted to impart reciprocatory movement to said bar, a guide receptacle in communication with the lower extremity of said chute, means reciprocally mounted in said receptacle below the lower extremity of said chute, and an operative connection between said means and said drive shaft, substantially as described.

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

HERMAN A. KREFT.

Witnesses:

JOSHUA R. H. POTTS,
HELEN F. LILLIS.