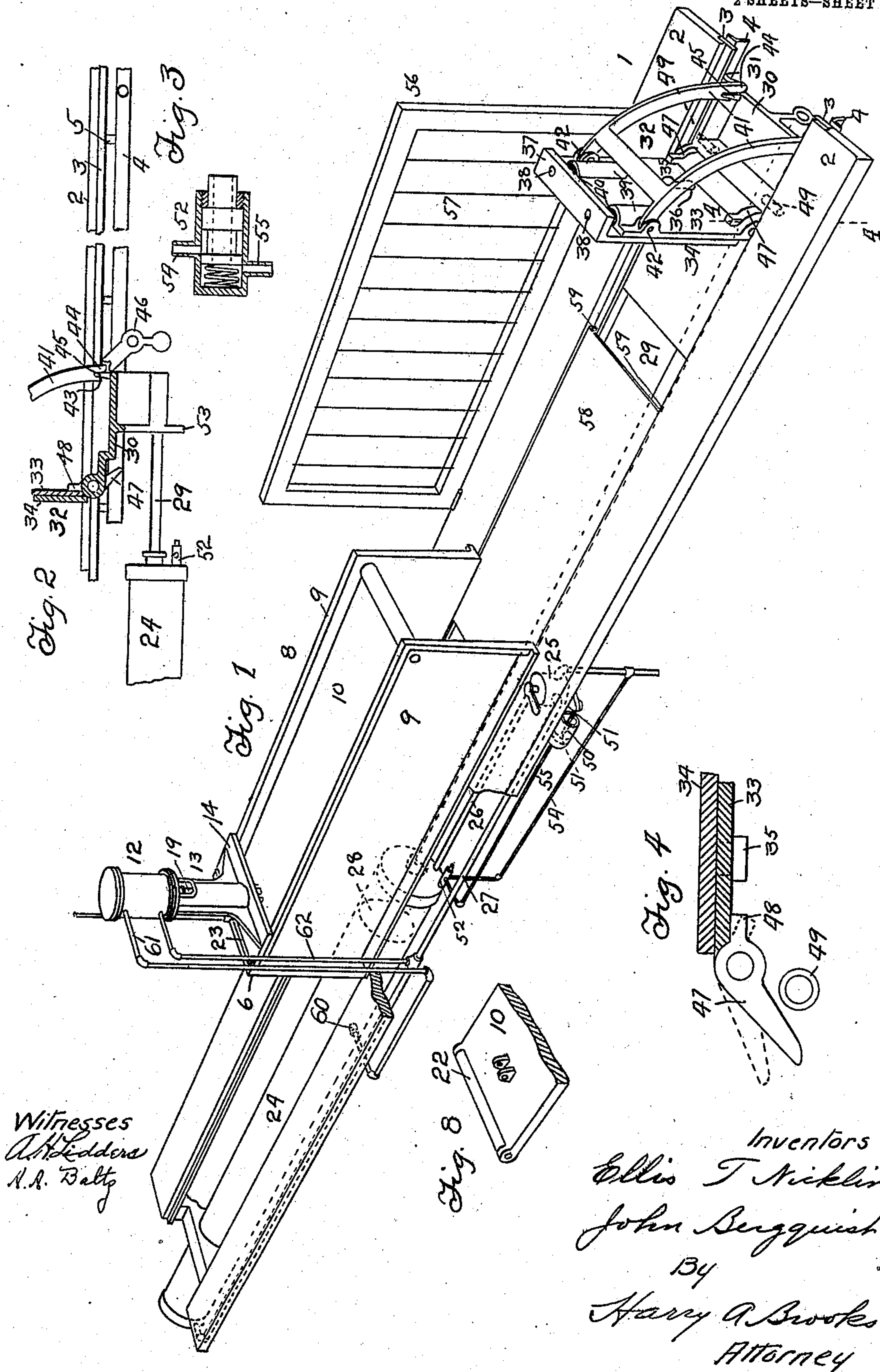


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GLUE CUTTING APPARATUS.  
APPLICATION FILED APR. 2, 1908.

915,878.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses  
A. H. Liddons  
H. A. Bally

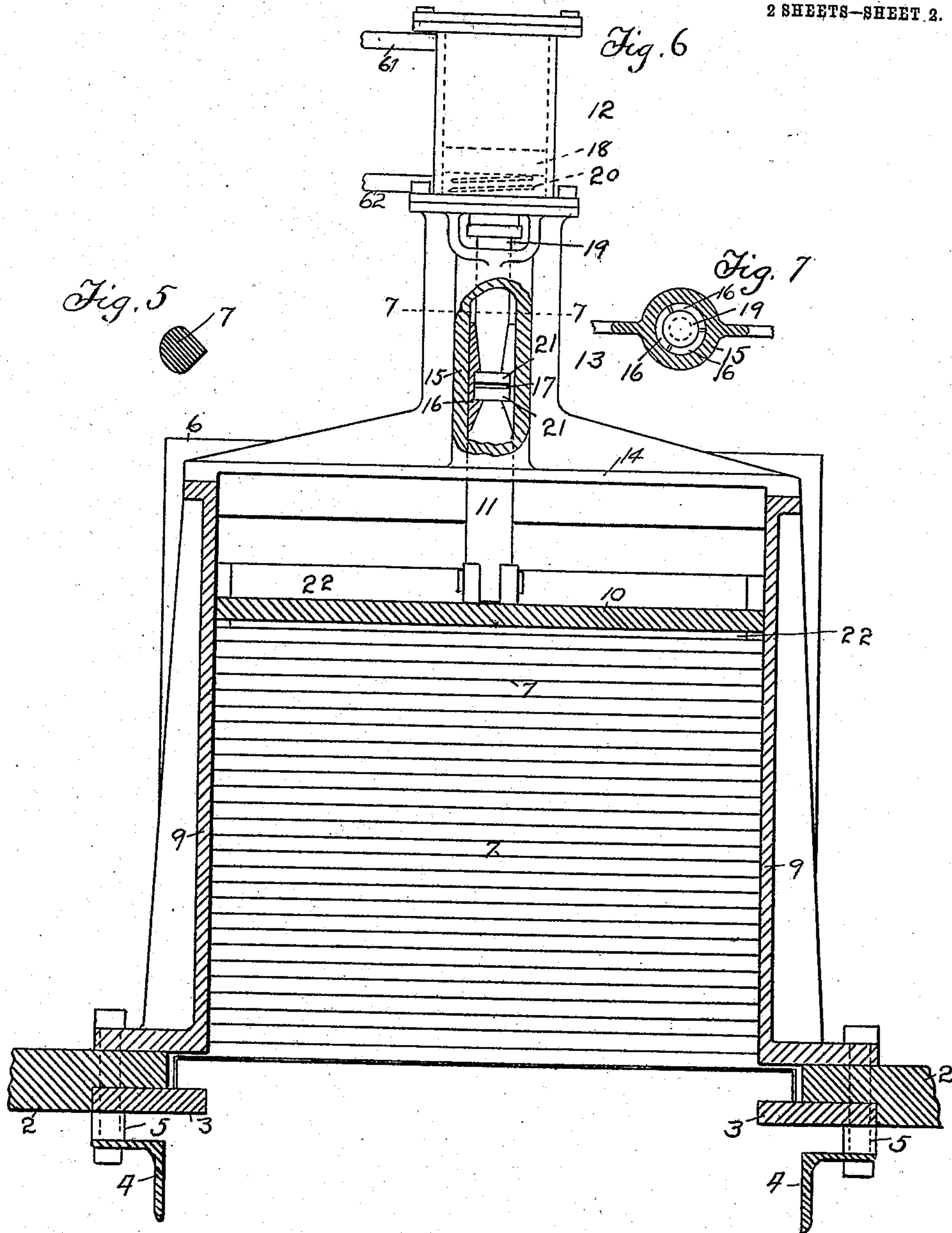
Inventors  
Ellis T. Nicklin  
John Bergquist  
By  
Harry A. Brooks  
Attorney

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A. H. Liddens  
Anna A. Batty

Inventors  
Ellis T. Nicklin  
John Bergquist  
By  
Harry A. Brooks  
Attorney



# UNITED STATES PATENT OFFICE.

ELLIS T. NICKLIN AND JOHN BERGQUIST, OF LOS ANGELES, CALIFORNIA, ASSIGNORS TO  
THE CUDAHY PACKING CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## GLUE-CUTTING APPARATUS.

No. 915,878.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed April 2, 1908. Serial No. 424,843.

*To all whom it may concern:*

Be it known that we, ELLIS T. NICKLIN and JOHN BERGQUIST, citizens of the United States of America, residing at Los Angeles, county of Los Angeles, State of California, have invented a certain new and useful Glue-Cutting Apparatus, and do 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 appertains to make and use the same.

This invention relates to apparatus for cutting glue or other material of an analogous nature; and has for its object to provide a simple and inexpensive construction in such apparatus which shall operate effectively in practice to accomplish the purpose for which it is designed.

The invention consists of the novel features, and peculiar construction, arrangement and combination of the parts in the apparatus, as brought out in the following description of one form in which the invention may be embodied and which is illustrated in the accompanying drawings forming part hereof, in which,

Figure 1 is a view in perspective, of the apparatus; some of the parts being shown broken away. Fig. 2 is a partial longitudinal view showing the crosshead and follower in section and the weighted catch. Fig. 3 is a view, partly in section, of the spring-pressed piston-valve. Fig. 4 is a view taken on the dotted line 4—4 of Fig. 1. Fig. 5 is a view showing in cross section the shape of the cutting wires. Fig. 6 is a view of the fluid pressure means mounted on top of the housing at the rear, for raising and lowering the roof member. Fig. 7 is a view taken on the dotted line 7—7 of Fig. 6. Fig. 8 is a view, in perspective, of the rear end portion of the roof-member.

Referring to the drawings, 1 designates the top of a table, which top may be supported in any suitable or approved manner, and comprises arranged longitudinally on opposite sides, pieces of framework; which pieces are made up of a top-plank 2, a strip 3 preferably of metal suitably secured to the plank, and an angle iron 4 suitably secured in position under said plank and strip and separated therefrom, preferably by interposed ferrules

5. The strips 3 are disposed to have a portion thereof project inwardly between the top planks 2 to constitute a way whereon a tray carrying material may travel.

Mounted at the rear on the top of a table and at right angles thereto is a frame 6 provided with stretched cutting wires 7 extending between its sides, each of said wires being formed and arranged in the frame to present an edged face to the front. (See Fig. 5).

Abutting the frame 6 and extending forwardly thereof is a housing 8 comprising upright walls 9, each suitably secured in position on frame-pieces 1, and a roof member 10 fitting between and pivoted in the walls at the forward end thereof.

To provide automatic means for lowering and raising the roof member 10, it may be pivotally connected at its rear end to a link 11, and thereby be operatively associated with the fluid-pressure motor 12, through the intermediary friction holding-device 13. The motor 12 is suitably mounted above the device 13, which in turn is mounted on cross-piece 14 secured to walls 9 of the housing. The device 13 comprises a casing 15 in which is arranged the parts 16 of a split cylindrical block having upper and lower central longitudinal openings therein, which openings taper toward and communicate with a recessed portion 17. The piston 18 of motor 12 is connected to rod 19 and a spring 20 is suitably arranged at the lower end of the cylinder of the motor to support the parts when the fluid pressure is removed from the lower end of the cylinder. The lower end portion of rod 19 and the upper end portion of link 11 are tapered respectively and fitted in the upper and lower openings in the split block, and the ends of the rod and link are each provided with a shoulder 21 fitting in the recessed portion 17 of the split rock.

At the rear end of the roof-member is mounted a roller 22, and above the frame 6 a perforated pipe 23 connected to a water supply (not shown) is provided to allow water to trickle on the frame 6 to moisten the cutting wires 7.

At the rear end of the table top is arranged, intermediate of and below the pieces of frame-work 1, the cylinder 24 of a fluid-pressure motor, suitably secured to said



pieces of frame-work so as to be carried thereby. To control the movement of the piston 28 in cylinder 24, a four-way valve 25 mounted on the table top, is connected to a suitable source (not shown) of fluid under pressure, and has connected thereto pipes 26 and 27 leading respectively to the front and rear ends of the cylinder. The piston 28 is connected by means of rod 29 to cross-head 30 which is mounted between the frame pieces 1 and is provided on each of its sides with a part 31 adapted to fit between the strip 3 and angle iron 4 and which rests on said angle-iron.

At the rear of the crosshead 30 is a follower 32 comprising a front-board 33 hingedly connected at one end to the crosshead and a back-board 34 slidably mounted on the front-board. To constrain the sliding movement of the back-board on the front-board, a pin 35 fixed on the back-board is arranged to engage the front-board in a slot 36 therein. The back-board 34 is provided at one end with a flange 37 which carries pins 38 extending part way into sockets 39 on the front-board, said pins passing through springs 40 which are interposed between the flange and the sockets for a purpose hereinafter mentioned. Cross-connected legs 41 are pivotally connected to the front-board 33 in lugs 42 thereon, and have provided on their free ends toes 43 and 44 which are adapted to coact with projections 45 on the crosshead to permit of locking the legs 41 in a raised position, and weighted catches 46 are pivoted at suitable points on the frame-pieces for a purpose hereinafter mentioned.

To automatically raise the follower to an upright position there may be provided at each side of the crosshead 30 a pivotally mounted trigger 47 having a part 48 normally bearing against the front-board 33 of the follower, and a roller 49 suitably mounted on each of frame pieces of the table top, in alinement with said trigger.

A small fluid-pressure motor 50 may be associated with the four-way valve 25 to operate it in a reverse direction, in which case the piston rod 51 of the motor may be connected with a crank attached to the lower end of the movable part of the four-way valve, and the operation of the motor governed by a spring-pressed piston-valve 52 suitably mounted in the path of the projection 53 on cross-head 30 so that it may be operated at the limit of the rearward movement of the crosshead. Pipe 54 is connected between the source of fluid-pressure supply and the valve 52, and pipe 55 leads from the valve to the motor 50.

For the purpose of making an initial cut transversely of the mass of material when it is desired to divide it into parts of less length than that of the whole mass, a swinging frame 56 suitably positioned at the front

end of the table top and having wires 57 stretched therein, may be provided.

The general construction of the apparatus having been described, the manner of its use and operation will now be explained. Assuming that the crosshead 30 is in a forward position and the follower 32 in raised position, as shown in Fig. 1. The tray 58—shown in Fig. 1 as partly moved into the housing—with material thereon to be cut is placed between the frame pieces 1 so that the depending side pieces 59 rest on the way provided by strips 3, and is positioned so that the initial cut can be made by manipulating swinging frame 56; after which the four-way valve may be operated to move the tray with material thereon into the housing 8, the roof member 10 being in raised position. When the tray of material has been moved to enter the housing the piston passes the point 6 at which is connected the pipe 61 leading to the upper end of the cylinder of motor 12, whereby fluid under pressure causes the piston 18 of the motor to move downwardly and consequently the roof-member 10 is lowered on the material, whereupon the friction holding-device 13 prevents farther descent or the raising of the roof-member by pressure exerted on its underside while the material is being moved through the housing by the follower on the crosshead; since such pressure acts to cause a jamming of the parts 16 of the split block against the casing 15 as will be readily understood. The spring-pressed sliding movement of the back-board of the follower permits it to fit snugly against the underside of the roof-member to prevent material squeezing past it and out of the housing. As the cross-head, and consequently the follower and tray of material in front thereof, move rearwardly through the housing, the material is pressed past the cutting wires 7 in the frame 6; and the tray passing out beneath the frame receives the cut material as it passes out of the housing. When the cross-head 30 reaches the limit of rearward movement, the projection 53 thereon operates piston-valve 52 whereby the motor 50 operates the four-way valve in a reverse direction; whereupon fluid under pressure is admitted to the rear end of cylinder 24, as also to the lower end of the cylinder of the motor 12 through pipe 62 which is suitably connected with pipe 27. The operation of the valve 52 thus causes the cross-head 30 to begin its forward movement and causes the motor 12 to operate to raise the roof-member 10. After the roof-member is raised and while the crosshead 30 is moving forwardly, the toes 44 of the follower legs 41, engage the pivoted catches 46, whereby, as will readily be understood, the toes are thrown out of engagement with the projections 45 so that the follower drops to lowered position on the crosshead and may pass under a tray of material that



may meantime have been placed in position at the forward end of the table. When the pressure is removed from the lower end of the cylinder or motor 12 the piston 18 is supported by spring 20. It will also be understood that the pivoted triggers 47 ride over the rollers 49 near the end of the forward stroke and that on the rearward stroke they, on engagement with the rollers, cause the movement of the follower to its upright position.

While a particular description has been given of one form of apparatus embodying the invention, it is to be understood that it is possible to make various changes and modifications, which are within the principle and scope of the invention.

We claim:

1. In combination, means for cutting material, a housing arranged adjacent thereto, a way for a tray carrying material into said housing, a follower adapted to fit in said housing, and means for moving said follower through said housing and thereby press the material on said tray against said cutting means and push the tray and material thereon out of said housing.

2. In combination, means for cutting material, said means comprising a frame carrying stretched wires thereon, a housing arranged adjacent to said cutting means, a way for a tray carrying material into said housing, a follower adapted to fit in said housing, and means for moving said follower into said housing to thereby press the material on said tray against said cutting means and push the tray and material thereon out of said housing.

3. In combination, means for cutting material, a housing arranged adjacent thereto, a way for means carrying material into said housing, a follower adapted to fit in said housing, and means for moving said follower into said housing to push the material on the carrying means therefrom and against said cutting means.

4. In a glue cutting apparatus, in combination, means for cutting the material, a housing for the material arranged adjacent to said cutting means, a follower fitting said housing, and means for moving said follower in said housing to push the material therefrom and against said cutting means, substantially as described.

5. In a glue cutting apparatus, in combination, means for cutting material, a housing for the material arranged adjacent to said cutting means, a follower fitting said housing, means for moving said follower in said housing to push the material therefrom and against said cutting means, and means for moistening said cutting means, substantially as described.

6. In a glue cutting apparatus, in combination, means for cutting material, a way for a tray carrying the material, a housing adapt-

ed to receive the tray carrying the material, said housing arranged adjacent to said cutting means, a follower fitting the interior of said housing, means for moving said follower into said housing to push the material on said tray therefrom and against said cutting means, and means for moistening said cutting means, substantially as described.

7. In a glue cutting apparatus, in combination, means for cutting material, said means comprising a frame carrying stretched wires therein, a way for the tray carrying the material, a housing arranged adjacent to said cutting means, a follower fitting the interior of said housing, means for moving said follower into said housing to push the material on said tray therefrom and against said cutting means, and means for moistening said cutting means, substantially as described.

8. In combination, means for cutting material comprising a frame with stretched wires therein, a way for a tray carrying the material, a housing having an end thereof abutting said cutting means and comprising upright walls and a roof member pivotally mounted between said walls, a follower fitting the interior of said housing, and means for moving said follower in said housing to push the material on said tray therefrom and against said cutting means, substantially as described.

9. In a glue cutting apparatus, in combination, means for cutting material comprising a frame with stretched wires therein, a way for a tray carrying the material, a housing having an end thereof abutting said cutting means and comprising upright walls and a roof member pivotally mounted between said walls, a follower fitting the interior of said housing, means for moving said follower into said housing to push the material on said tray therefrom and against said cutting means, and means for moistening said cutting means, substantially as described.

10. In a glue cutting apparatus, in combination, a table, a way on the top of said table for a tray carrying material, means on said table for cutting material, a housing for the material arranged adjacent to said cutting means, a crosshead slidably mounted on said table, a follower pivotally connected with said crosshead and fitting in said housing, and means connected with said crosshead for moving said follower in said housing to push the material on said tray therefrom and against said cutting means, substantially as described.

11. In a glue cutting apparatus, in combination, frame-pieces of a table top, a way between said frame pieces for a tray carrying material, means for cutting material, said means comprising a frame having stretched wires therein, mounted on said frame pieces, a housing for the material arranged adjacent to said cutting means, a cross-head slidably



mounted on said frame-pieces, a follower pivotally connected with said cross-head and fitting the interior of said housing, and means connected with said cross-head for moving said follower into said housing to push the material on said tray therefrom and against said cutting means, substantially as described.

12. In a glue cutting apparatus, in combination, frame-pieces of a table top, a way between said frame pieces for a tray carrying material, means for cutting material, said means comprising a frame having stretched wires therein, mounted on said frame-pieces, a housing for the material arranged adjacent to said cutting means, a cross-head slidably mounted on said frame-pieces, a follower pivotally connected with said cross-head and fitting the interior of said housing, means connected with said cross-head for moving said follower in said housing to push the material on said tray therefrom and against said cutting means, and means for moistening the cutting means, substantially as described.

13. In combination, means for cutting material, a housing for the material arranged adjacent to said cutting means, a follower fitting the interior of said housing, said follower comprising a spring pressed front-board slidably mounted on a back-board, and means for moving said follower in said housing to push the material therefrom and against said cutting means.

14. In combination, means for cutting material, a housing for the material arranged adjacent to said cutting means, a follower fitting the interior of said housing, said follower comprising a spring pressed front-board slidably mounted on a back-board, means for moving said follower in said housing to push the material therefrom and against said cutting means, and means for moistening said cutting means.

15. In combination, frame-pieces of a table top, means for cutting material, said means comprising a frame having stretched wires therein mounted on said frame-pieces, a housing for the material arranged adjacent to said cutting means and comprising upright walls with a roof member pivoted therebetween, a cross-head slidably mounted on said frame-pieces, a follower pivotally connected with said cross-head and fitting the interior of said housing, said follower comprising a spring pressed back-board slidably mounted on a front-board, and means connected with said cross-head for moving said follower in said housing to push the material therefrom and against said cutting means.

16. In combination, a housing, means for cutting material comprising a frame carrying stretched wires having edged faces adjacent to said housing, a follower fitting said hous-

ing, and means for moving said follower in said housing to push the material therefrom and against said cutting means.

17. In a glue cutting apparatus, in combination, means for cutting material, a housing arranged adjacent to said cutting means, a follower fitting said housing, means for automatically raising the follower, and means for moving said follower into said housing to push material therefrom and against said cutting means, substantially as described.

18. In a glue cutting apparatus, in combination, means for cutting material, a housing arranged adjacent to said cutting means, a follower fitting said housing, means for automatically raising the follower, means for moving said follower into said housing to push material therefrom and against said cutting means, and means for automatically lowering the follower, substantially as described.

19. In a glue cutting apparatus, in combination, means for cutting material, a housing arranged adjacent to said cutting means, a follower fitting said housing, means for automatically lowering the follower, and means for moving said follower into said housing to push material therefrom and against said cutting means, substantially as described.

20. In a glue cutting apparatus, in combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower adapted to fit in said housing, means for moving said follower into said housing to push material therefrom and against said cutting means, and means for automatically raising and lowering said roof-member, substantially as described.

21. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower adapted to fit said housing, means for moving said follower in said housing to push material therefrom and against said cutting means, and means comprising a friction holding-device for automatically raising and lowering and locking in position said roof-member.

22. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower fitting said housing, means for automatically lowering the follower, means for moving said follower in said housing to push material therefrom and against said cutting means, and means for automatically raising and lowering said roof-member.

23. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower fitting said housing, means for automatically raising the follower,



means for moving said follower in said housing to push material therefrom and against said cutting means, and means for automatically raising and lowering said roof-member.

24. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower fitting said housing, means for automatically lowering the follower, means for automatically raising the follower, means for moving said follower in said housing to push material therefrom and against said cutting means, and means for automatically raising and lowering said roof-member.

25. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower fitting said housing, means for automatically lowering the follower, means for automatically raising the follower, means for moving said follower in said housing to push material therefrom and against said cutting means, and means for automatically raising and lowering and locking in position said roof-member.

26. In combination, means for cutting material, a way for a tray carrying material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower adapted to fit in said housing, means for raising and lowering the roof-member, means for locking the roof-member in position, and means for moving said follower into said housing to push material on said tray therefrom and against said cutting means, substantially as described.

27. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower adapted to fit said housing, means for automatically raising and lowering the roof-member, means for locking the roof-member in position, and means for moving said follower in said housing to push material therefrom and against said cutting means.

28. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, means for raising and lowering the roof-member, means for automatically locking the roof-member in position, a follower adapted to fit said housing, and means for moving said follower in said housing to push material therefrom and against said cutting means.

29. In combination, means for cutting material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower adapted to fit said housing, means for moving said follower in said housing to push material therefrom and against said cutting means, and automatic

means comprising a holding device for raising and lowering and locking in position, said roof-member.

30. In a glue cutting apparatus, in combination, means for cutting material, a housing arranged adjacent to said cutting means and including a roof-member, a way for the tray carrying material, a follower adapted to fit in said housing, means for locking the roof-member in position, and means for moving said follower in said housing to push material on said tray therefrom and against said cutting means, substantially as described.

31. In combination, means for cutting material, a housing for the material arranged adjacent to said cutting means, an extensible follower fitting said housing, and means for moving said follower in said housing to push material therefrom and against said cutting means.

32. In combination, means for cutting material, a housing holding material and arranged adjacent to said cutting means, a follower fitting said housing, and means for moving said follower in said housing to push material therefrom and against said cutting means and automatically returning said follower to its initial position.

33. In a glue cutting apparatus, in combination, means for cutting material, a way for a tray carrying material, a housing arranged adjacent to said cutting means and comprising a roof-member, a follower adapted to fit in said housing, means for automatically raising and lowering the roof-member, and means for moving said follower into said housing to push material on said tray therefrom and against said cutting means, substantially as described.

34. In a glue cutting apparatus, in combination, means for cutting material, a way for a tray carrying material, a housing arranged adjacent to said cutting means and comprising a roof-member, an extensible follower adapted to fit in said housing, means for automatically raising and lowering the roof-member, means for locking the roof-member in position, and means for moving said follower into said housing to push material on said tray therefrom and against said cutting means, substantially as described.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses at Los Angeles county of Los Angeles, State of California, this 16th day of March A. D. 1908.

ELLIS T. NICKLIN.  
JOHN BERGQUIST.

Witnesses:

ALEX. H. LIDDERS,  
ANNA A. BALTZ.