

No. 619,076.

Patented Feb. 7, 1899.

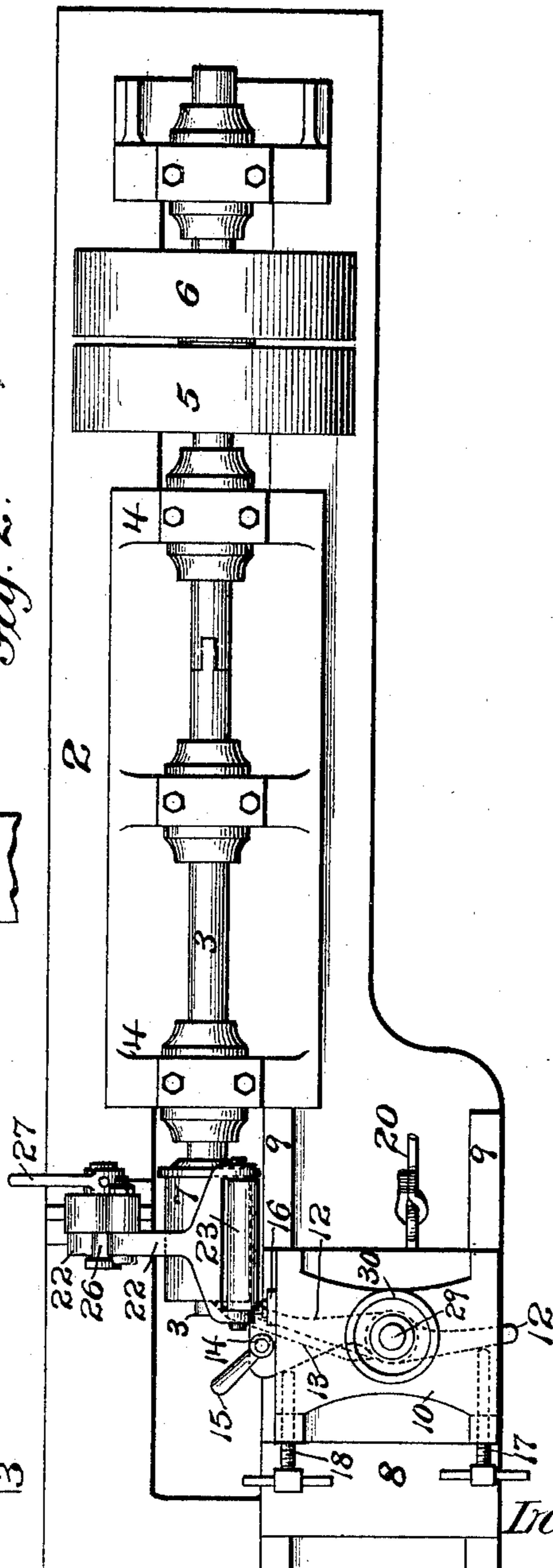
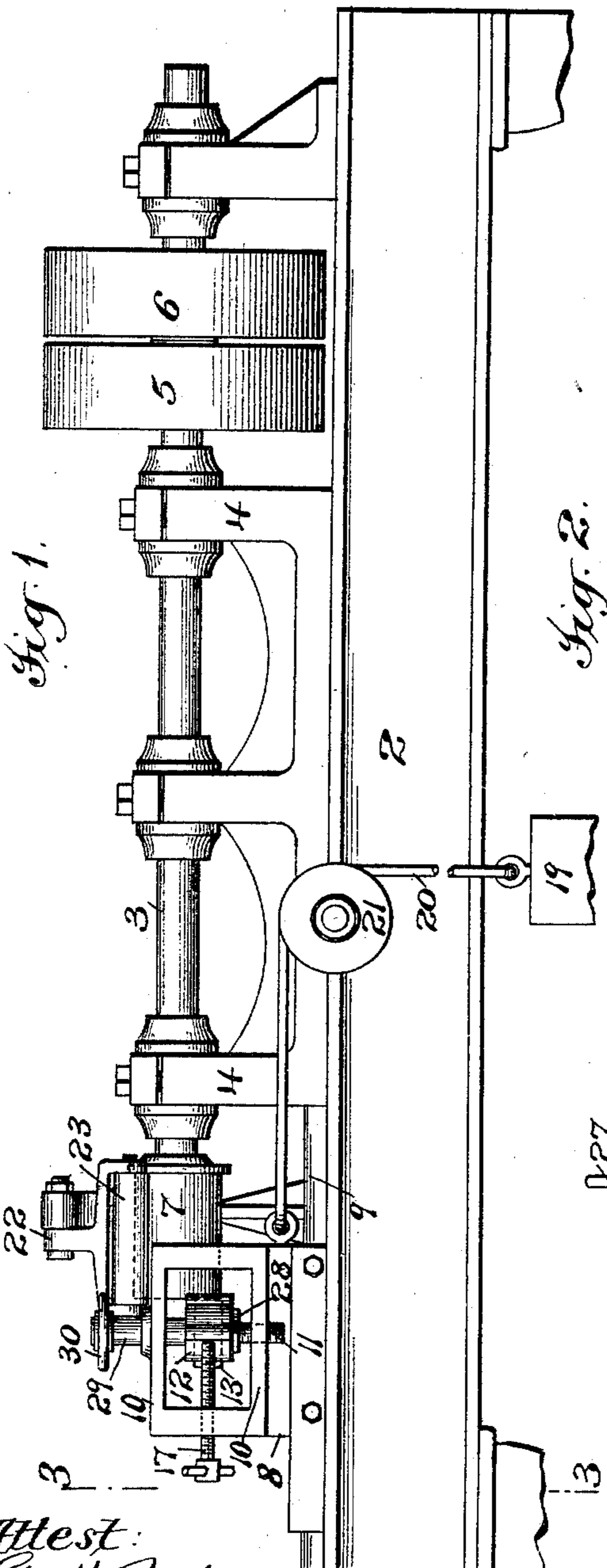
S. FEUST.

MACHINE FOR MANUFACTURING METAL WOOL.

(Application filed Mar. 26, 1896.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 4.

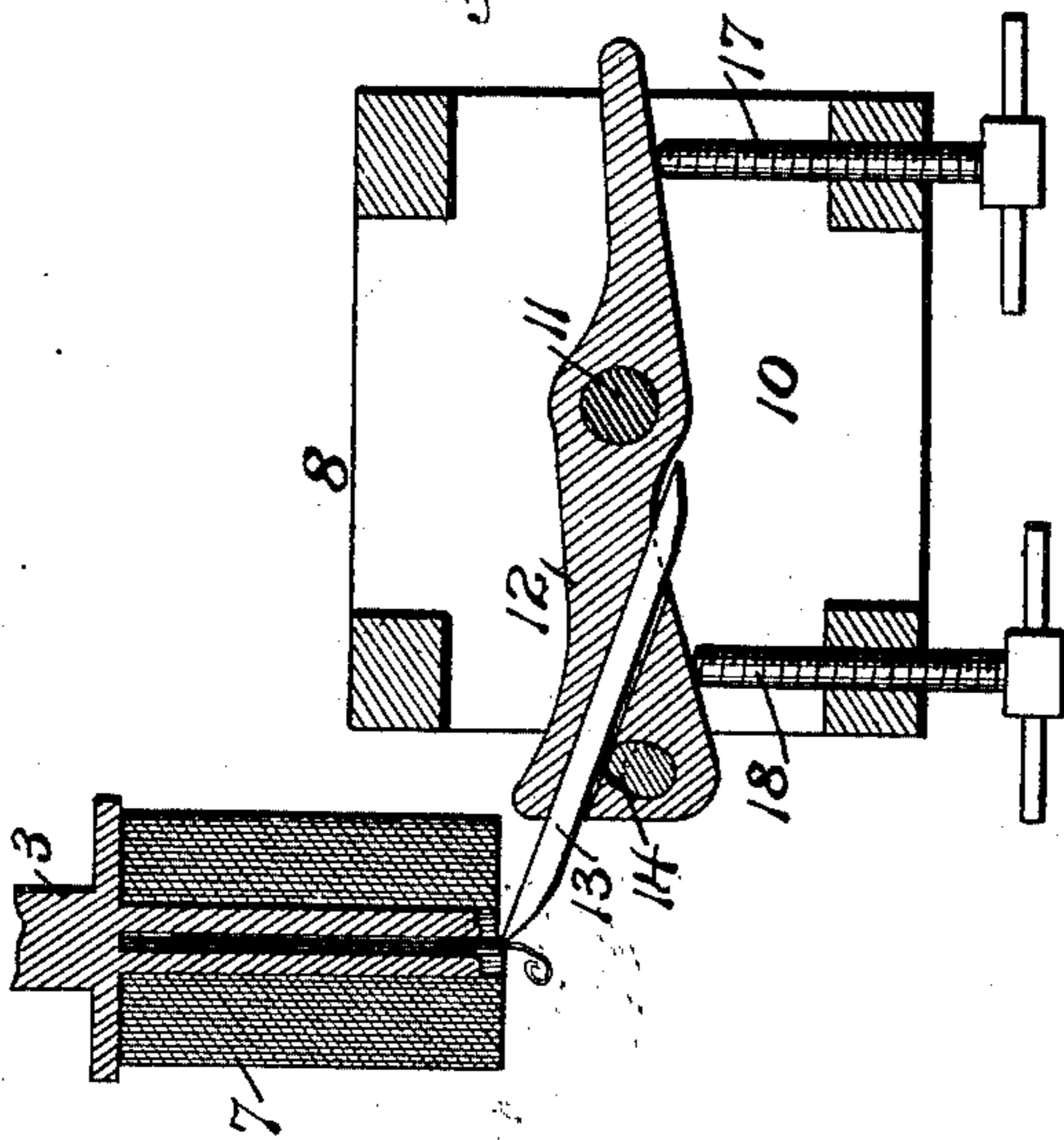
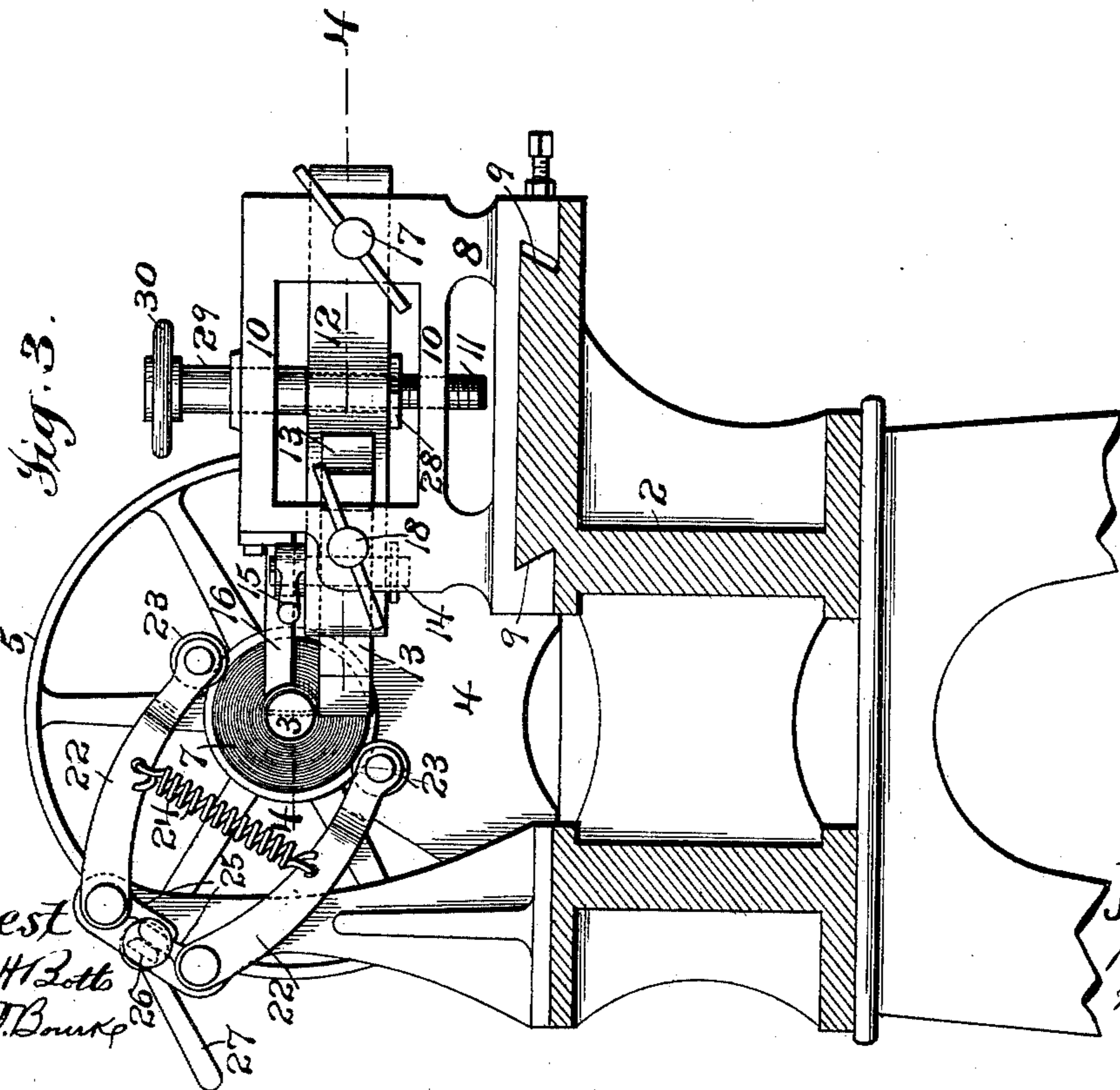


Fig. 3.



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UNITED STATES PATENT OFFICE.

SIGMUND FEUST, OF NEW YORK, N. Y.

MACHINE FOR MANUFACTURING METAL WOOL.

SPECIFICATION forming part of Letters Patent No. 619,076, dated February 7, 1899.

Application filed March 26, 1896. Serial No. 584,930. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND FEUST, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Machines for Manufacturing Metal Wool, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to machines for manufacturing metal wool from sheet metal in the roll, the invention consisting in the combination of means for suitably supporting a roll of sheet metal, a cutting-tool, and means for supporting the cutting-tool in such position as to engage the end of the roll and cut therefrom thin filaments of metal. In the preferred construction the roll of sheet metal is rotated and the cutting-tool is mounted in a carrier adapted to slide toward the roll, and thus maintain the cutting-tool constantly in cutting relation to the end of the roll. The cutting-tool is also preferably adjustable in the carrier, transversely to the axis thereof, so as to engage different portions of the end of the roll and also to and from the end of the roll for varying depths of cuts.

As a full understanding of the improvements constituting the present invention can best be given by an illustration and a detailed description of an organization embodying the same such description will now be given in connection with the accompanying drawings, which illustrate one embodiment of the invention, and in which—

Figure 1 is a side elevation of a machine embodying the invention. Fig. 2 is a plan view of the same. Fig. 3 is an end view thereof, looking to the right of Figs. 1 and 2; and Fig. 4 is a horizontal section taken on the line 4 4 of Fig. 3, illustrating the tool-carrier and the means for adjusting the cutting-tool with relation to the roll.

Referring to said drawings, 2 represents the frame of the machine, and 3 a spindle mounted in journals 4 in the frame of the machine and provided at its rear end with fast and loose pulleys 5 6. At its forward end the spindle 3 projects beyond the end of the foremost journal 4 in position to receive a roll 7 of sheet metal. The roll 7 may be a sheet of any suitable metal, which is wound compactly

upon itself and properly secured to the spindle 3, so as to rotate therewith in the direction in which the roll is wound.

Mounted upon the frame 2, at one side of the machine, is a carrier 8, adapted to slide longitudinally of the machine on ways 9 and parallel with the spindle 3.

As shown in Fig. 4, the carrier 8 is provided with two posts 10, in which is journaled a shaft 11, upon which is fulcrumed between the posts 10 a tool-holder 12, provided with a removable tool 13, which is held in position in the tool-holder by a cam 14, provided with a lever 15, which cam in the position shown in the drawings engages and locks the cutting-tool against movement on the tool-holder and which when the lever 15 is moved releases it, so that it can be removed or adjusted longitudinally. The cutting-tool 13 projects transversely across the machine along the end of the roll 7 and with its cutting edge in contact therewith. The carrier is also provided with a guard 16, projecting transversely across the machine parallel with the tool 13 and which engages the end of the roll 7 upon the opposite side of the spindle 3 and in advance of the cutting-tool. In cutting position the tool 13 projects slightly beyond the face of the guard 16 a distance determined by the thinness of filament desired. The tool 13 is adjustable with relation to the guard 16, so as to vary the depth of its cut, and for this purpose the carrier 8 is provided with screws 17 18, journaled between the posts 10 and engaging one the forward end and the other the tail end of the tool-holder 12. By turning the screw 17 inwardly the forward end of the tool is moved toward the end of the roll 7, and by turning the screw 18 away from the roll, so as to increase and decrease, respectively, the depth of the cut. The cutting-tool 13 is maintained in cutting relation to the end of the roll 7 by a weight 19, connected by a cord 20, passing over a pulley 21 to the sliding carrier 8, which as the end of the roll is cut or planed by the tool 13 moves the carrier forward, and thus maintains the tool in cutting position.

As before stated, the roll 7 rotates in the direction in which it is wound, and to prevent any tendency to unwind as it is rotated a pair of arms 22, pivoted in the frame and having

rollers 23 at their ends, engage the roll 7 on opposite sides of the spindle 3, the arms 22 being maintained in this position by a spring 24 connecting them. The arms 22 are also provided with tailpieces 25, engaged by a cam 26 on the end of a lever 27, fulcrumed in the frame, by which when desired the arms 22 may be spread apart to release or receive between them a roll of sheet metal.

The operation of the machine is as follows: The roll 7 of sheet metal tightly wound is first secured to the spindle 3. This may be done in the machine itself or in a separate machine. In the latter case the spindle 3 will be split, as shown in Fig. 2, so that the end of the spindle 3 receiving the roll 7 may be readily removed from and inserted in the machine. In the former case the end of the sheet metal will be inserted in a slit in the spindle 3, as shown in Fig. 4, and the spindle then rotated, winding the sheet metal upon itself. As the sheet is thus wound the arms 22, engaging it with gradually-increasing pressure, will cause it to be wound tightly. The sliding carrier is then brought into position, with its guard 16 resting against the end of the roll. The cutting-tool 13 having been adjusted to or from the guard 16 by rotating shaft 11 according to the thinness of filament required the machine is set in operation. As the spindle, and with it the roll, rotates the edge of the tool 13 engaging the end of the roll will cut or plane therefrom filaments of the metal, and as the cutting or planing continues and the length of the roll thus becomes reduced the sliding carrier 8 is moved toward the roll 7 by the weight 19, and the cutting-tool thus maintained in cutting position.

The cutting-tool 13 is also adjustable vertically, so as to capacitate it to operate upon rolls of varying diameters and so as to capacitate it for use should a portion of its edge become dulled or broken. For this purpose the shaft 11 has a screw-threaded connection to the tool-holder 12 and is provided with a collar 28, engaging the under side of the tool-holder 13, to raise the holder, and with an enlarged portion 29, engaging the upper side of the tool-holder, to depress it. The shaft 11 is also provided with a handle 30 for rotating it.

Instead of employing a weight for sliding the carrier along the machine an ordinary screw-feed, such as used in lathes, or a spring may be employed for this purpose.

What I claim is—

1. In a machine for making metal wool from a roll of sheet metal, the combination with a support for the roll of sheet metal, of a cutting-tool supported in position to engage the

end of the roll and strip therefrom thin filaments of metal, said support and cutting-tool having a movement of rotation one relatively to the other, and a guard in a plane in advance of the cutting-tool, said guard and tool having a movement for adjustment relatively one to the other to regulate the depth of cut of the tool, substantially as described.

2. In a machine for making metal wool from a roll of sheet metal, the combination with a spindle provided with a split end for winding up sheet metal into a roll and then supporting and rotating the roll, of a cutting-tool supported in position to engage the end of the roll and strip therefrom thin filaments of metal, substantially as described.

3. In a machine for making metal wool from a roll of sheet metal, the combination with a spindle for winding up sheet metal into a roll and then supporting and rotating the roll, of a cutting-tool supported in position to engage the end of the roll and strip therefrom thin filaments of metal, and a guard interposed between the tool and roll, said guard and tool having a movement for adjustment relatively one to the other to regulate the depth of cut, substantially as described.

4. The combination with means for supporting and rotating a roll of sheet metal, of a cutting-tool supported in position to engage the roll, and a guard also engaging the roll, one of said members being adjustable to and from the roll, substantially as described.

5. The combination with means for supporting and rotating a roll of sheet metal, of a cutting-tool supported in position to engage the end face of the roll and a guard engaging the end of the roll, one of said members being adjustable to and from the end of the roll, substantially as described.

6. The combination with means for supporting and rotating a roll of sheet metal, of a cutting-tool supported in position to engage the roll and means engaging the roll circumferentially to prevent unwinding thereof, substantially as described.

7. The combination with means for supporting and rotating a roll of sheet metal, of a cutting-tool supported in position to engage the roll and spring-pressed arms engaging the roll circumferentially to prevent unwinding thereof, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SIGMUND FEUST.

Witnesses:

J. J. KENNEDY,
A. L. KENT.