

No. 720,227.

PATENTED FEB. 10, 1903.

W. CORMANY.
MACHINE FOR CUTTING CLOTH.

APPLICATION FILED NOV. 8, 1902.

NO MODEL.

Fig. 2.

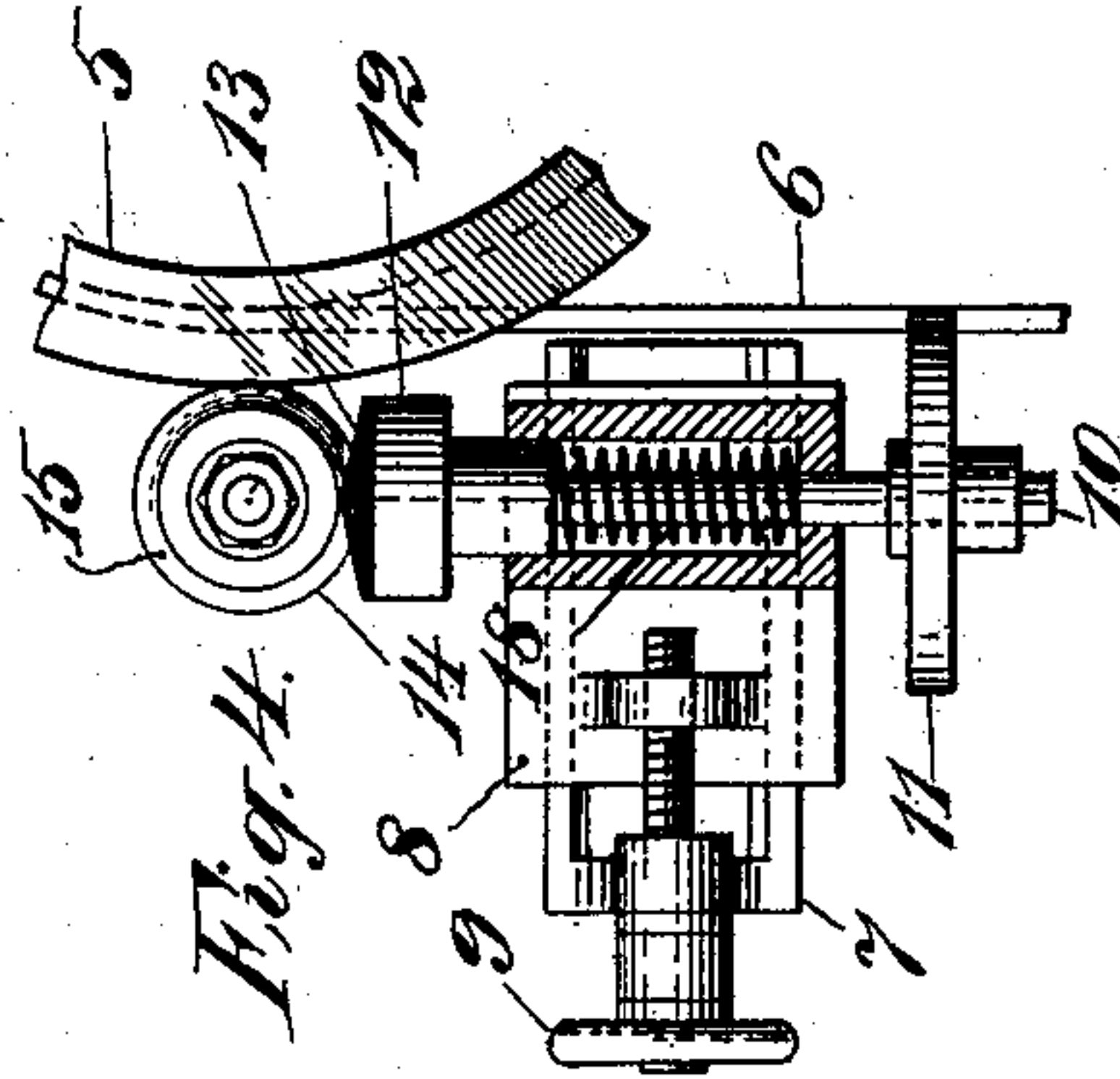
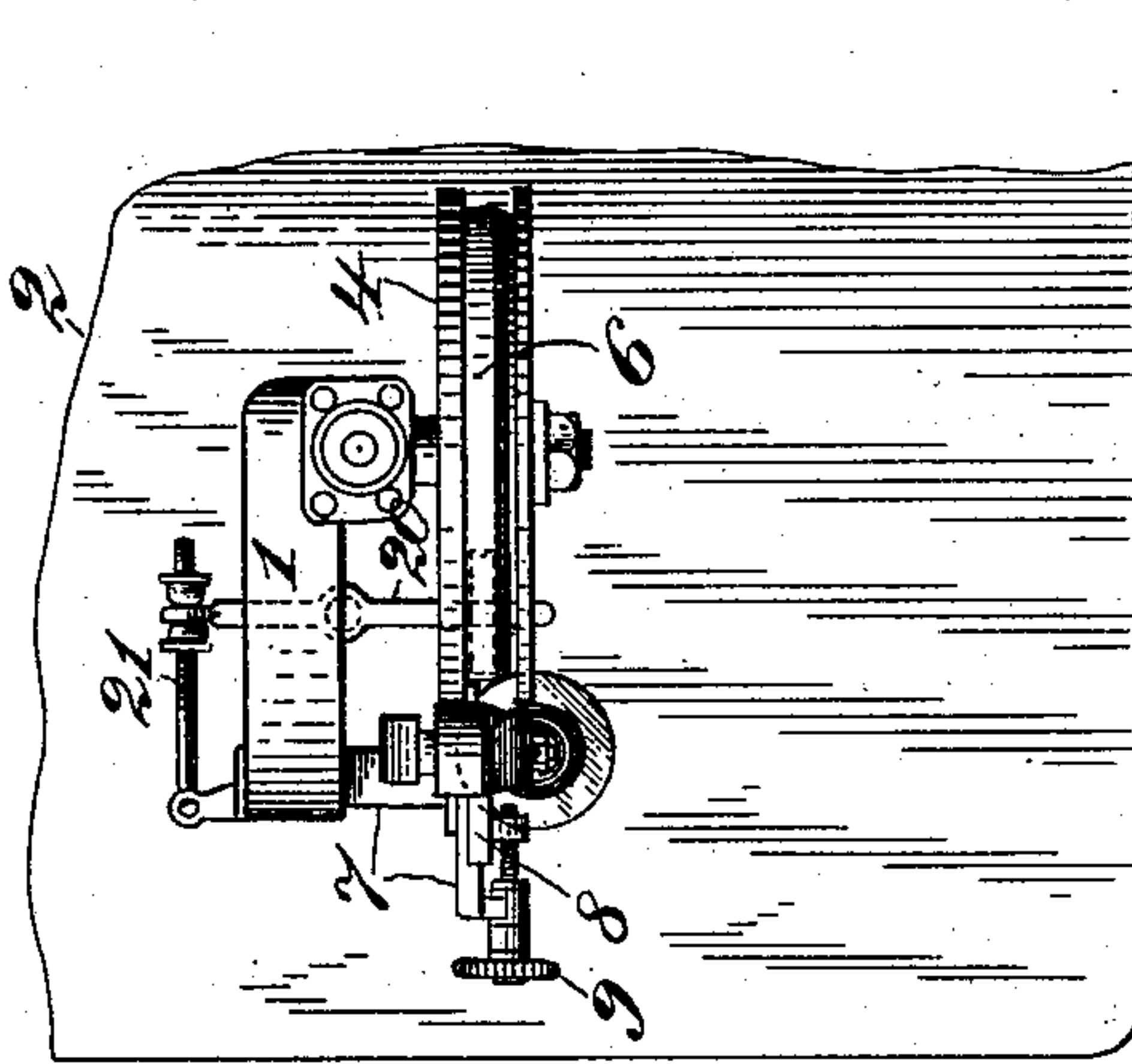


Fig. 3.

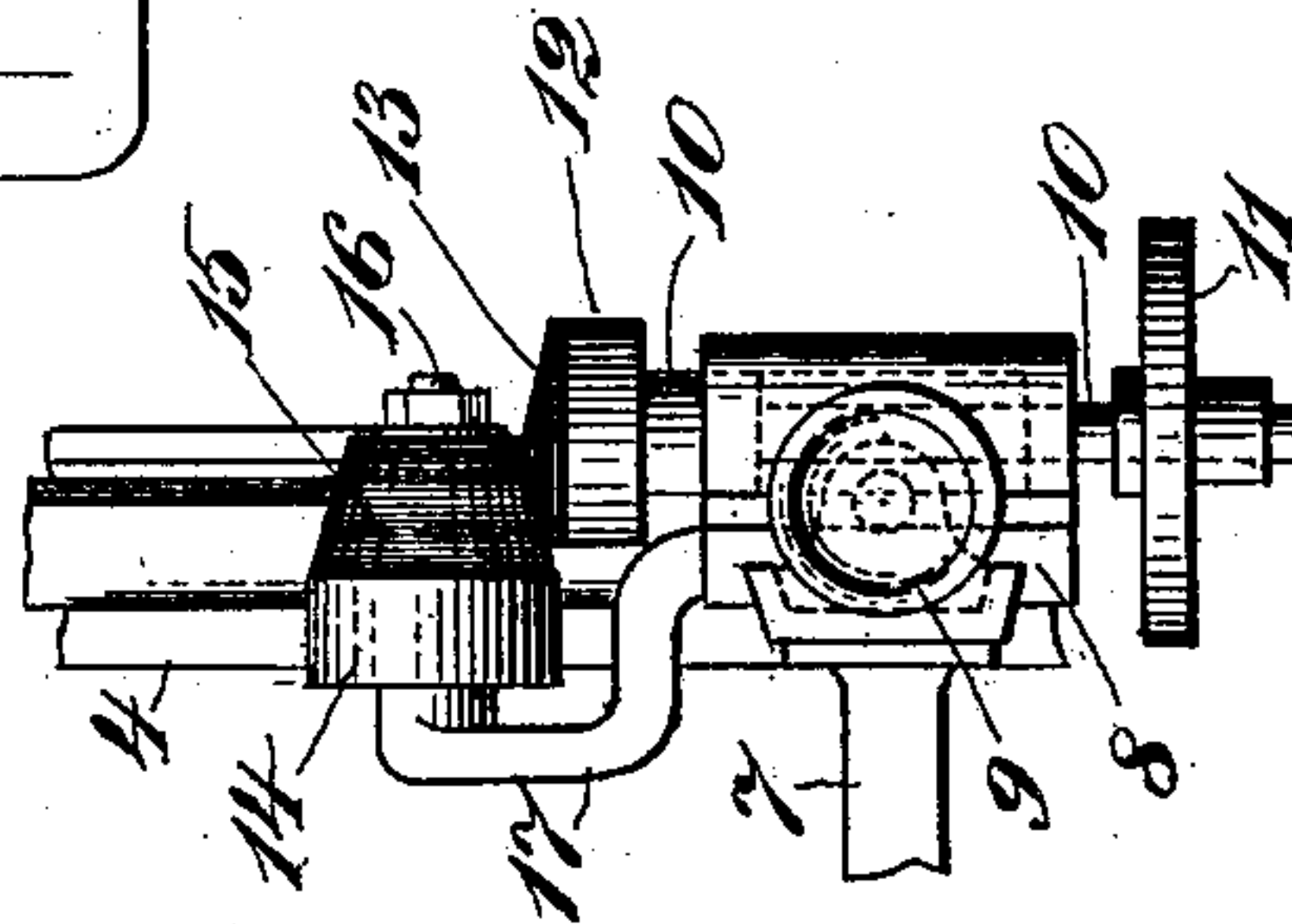


Fig. 1.

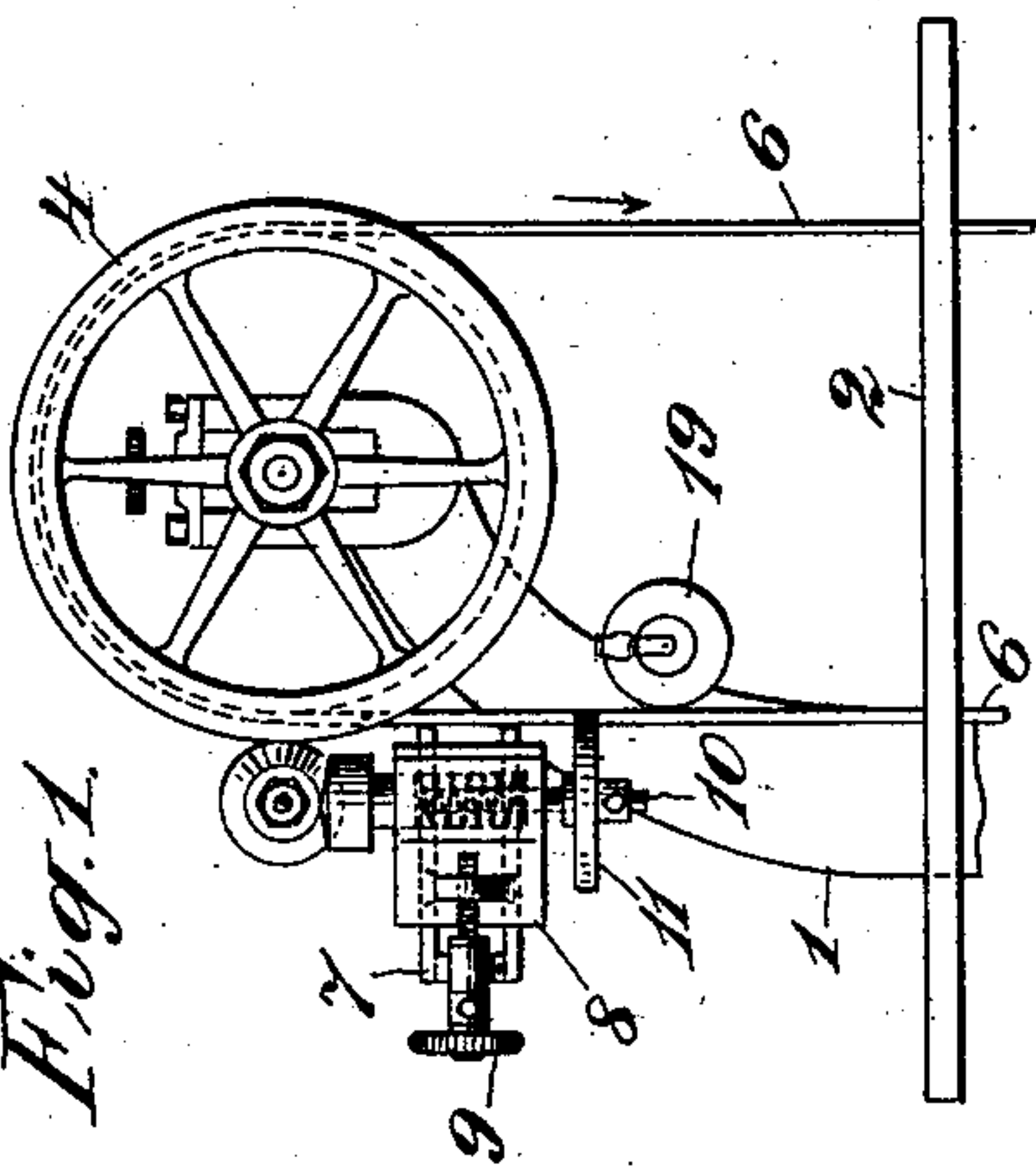
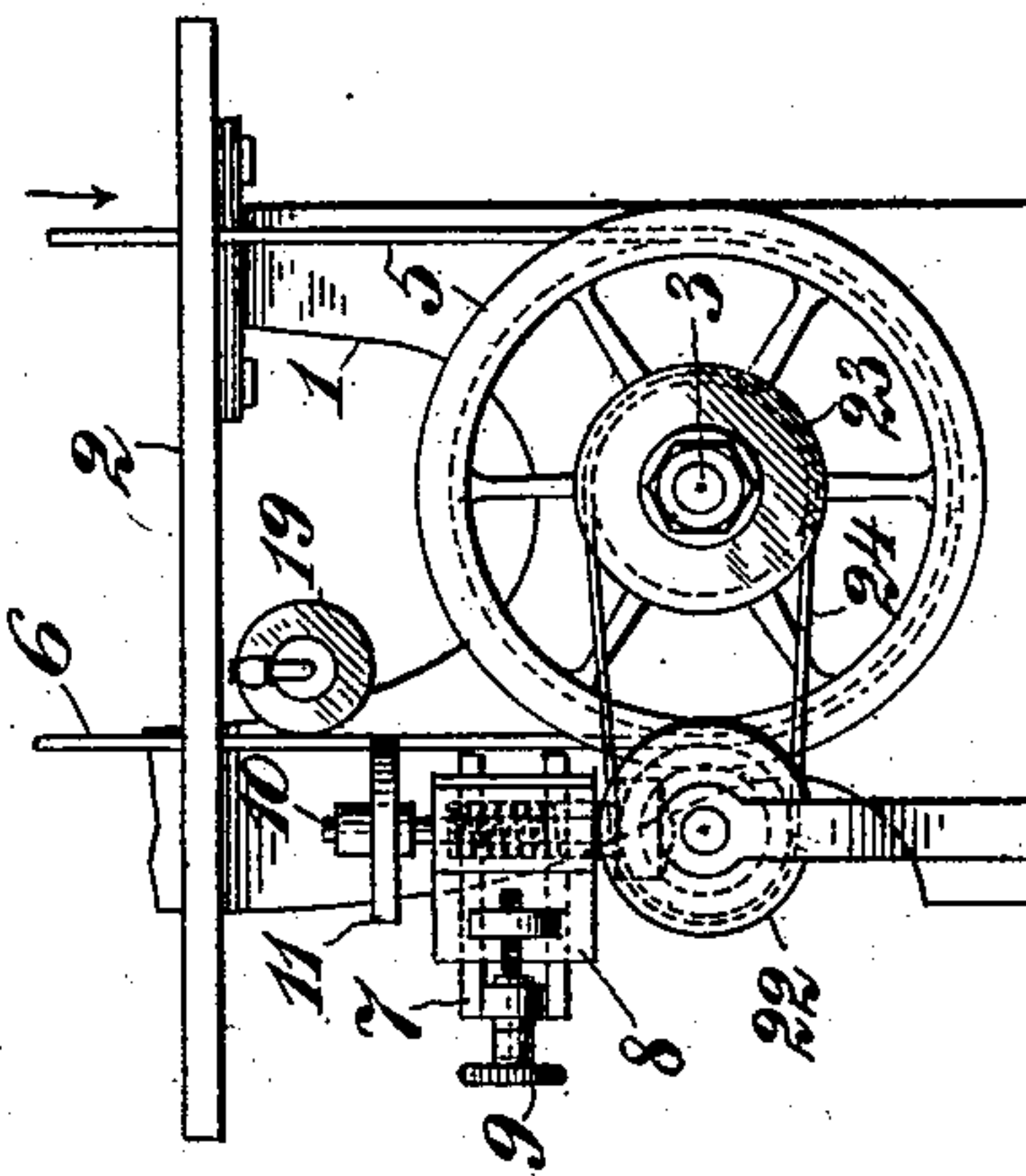


Fig. 5.



WITNESSES:

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MACHINE FOR CUTTING CLOTH.

SPECIFICATION forming part of Letters Patent No. 720,227, dated February 10, 1903.

Application filed November 8, 1902. Serial No. 130,523. (No model.)

To all whom it may concern:

Be it known that I, WALTER CORMANY, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Cutting Cloth, of which the following is a specification.

This invention relates to the class of machines for the purpose stated in the title, of which the machine illustrated in the patent to Lewis, No. 679,056, of July 23, 1901, is an example. In this patent a rotary grinding or abrading wheel driven by a belt from the main shaft is employed to grind and keep sharp the endless band-knife, the grinding-wheel being adjustable up to the knife. There is also an adjustable bearing-wheel back of the band-knife to resist the pressure of the grinding or abrading wheel.

The object of the present invention is to provide an improved and simplified means for operating the grinding-wheel.

In the accompanying drawings, which serve to illustrate embodiments of the invention, Figure 1 is a side elevation of the upper part of the machine, and Fig. 2 is a plan of the same. Figs. 3 and 4 are fragmentary detail views on a larger scale than the principal views, the former being an elevation of the frictional driving mechanism as seen from the left in Fig. 1 and the latter a sectional front view of the same. Fig. 5 is a side elevation of the lower part of the machine seen in Fig. 1, but showing the grinder disposed below the work-table and driven from the main shaft in a different manner.

1 designates the frame of the machine; 2, the work-table thereon to support the cloth while being cut; 3, the main driving-shaft; 4 and 5, the respective upper and lower pulleys supporting the endless band-knife 6, which moves in the direction indicated by the arrow adjacent thereto.

Figs. 1 and 5 may be considered together so far as the above-named general features are concerned, the former showing the upper part and the latter the lower part of the machine.

The means for grinding or sharpening the band-knife will now be described with es-

pecial reference to the first four figures of the drawings.

On the main frame 1 is a horizontally-projecting bracket 7, which forms a slideway for a carriage 8, which is made adjustable toward and from the band-knife by means of a colored adjusting-screw 9. In this carriage is mounted an upright shaft 10, on which is secured at its lower part the grinding or abrading wheel 11 and at its upper end a friction-wheel 12. This wheel is slightly coned and has a face 13, of leather or like soft and rough material, and it bears on a coned friction-wheel 14, which has leather on its coned part 15. The cylindrical part of the wheel 14 bears on the periphery of the upper pulley 4, whereby the abrading-wheel is driven non-positively by friction. The wheel 14 is rotatively mounted on a stud 16 on a bracket 17 on the carriage 8, as clearly seen in Fig. 3. In order to keep the wheel 12 pressed yieldingly into close frictional peripheral contact with the wheel 14, which drives it, the shaft 10 has a little endwise movement in its bearings, and a coil-spring 18 is employed, Fig. 4, which embraces a reduced part of the shaft 10, bearing at its upper end against a shoulder on the shaft and abutting at its lower end on the bearing about the shaft below. This spring acts to press the shaft upward with a yielding pressure. As here shown, the spring is boxed in or inclosed.

The bearing-wheel 19 (see particularly Fig. 2) is mounted substantially as in the patent before mentioned—that is to say, it is carried on one arm of a lever 20, and the other arm of this lever is made adjustable through the medium of a screw and nuts 21.

Fig. 5 shows the grinder or sharpening device situated below the work-table and inverted or placed with the grinding-wheel 11 uppermost. The cylindrical portion of the friction-wheel 14 does not in this case bear on the periphery of the lower pulley 5, and the rotation is effected by means of a sheave 22, connected to the wheel 14, a sheave 23, fixed on the main shaft, and a belt 24, connecting said sheaves. In other respects the construction is the same as that before described.

It will be noted that the coned friction-wheels serve to translate the motion or change it at right angles, as the axes of the shaft 10 and stud or spindle 16 are disposed at right angles to each other.

Having thus described my invention, I claim—

1. In a machine for cutting cloth, the combination with the main frame, the work-table, the band-knife, its supporting-pulleys, and the main shaft from which said pulleys are driven, of the means for grinding the moving band-knife, said means comprising a carriage, an upright shaft rotatively mounted therein, a grinding-wheel fixed thereon in position to grind the moving knife, a coned friction-wheel 12 fixed on said shaft, a coned friction-wheel 15 in peripheral driving contact with the last-named coned wheel, means for driving the wheel 15 from the same source that drives the band-knife, and a spring which keeps the peripheries of the friction-wheels in driving contact.

2. In a machine for cutting cloth, the combination with the frame, the work-table thereon, the band-knife, the supporting-pulleys of said knife, and the main driving-shaft carrying one of said pulleys, of the means for grinding the moving band-knife, said means comprising a carriage on the frame, an upright shaft rotatively mounted in said car-

riage, a grinding-wheel fixed on said shaft, a coned friction-wheel secured on said shaft, a wheel 14 having a coned part 15 in peripheral driving contact with the last-named friction-wheel, and the spindle or stud of the wheel 14, having its axis parallel with the axes of the supporting-pulleys, said wheel 14 being in peripheral, driving, frictional contact with the periphery of one of the pulleys which support the band-knife, substantially as set forth.

3. In a machine for the purpose specified, the combination with a supporting-frame, a work-table thereon, a band-knife, a main shaft, and pulleys to support and drive said knife, of a grinding-wheel, so disposed as to grind the moving knife, coned wheels for frictional driving situated between said grinding-wheel and the periphery of one of said pulleys, whereby the latter drives the grinding-wheel, means for adjusting the grinding-wheel up to the knife, and means for supporting the knife at the back near the grinding-point.

In witness whereof I have hereunto signed my name, this 6th day of November, 1902, in the presence of two subscribing witnesses.

WALTER CORMANY.

Witnesses:

HYMAN COHEN,

HARRY HOLLOWAY.