

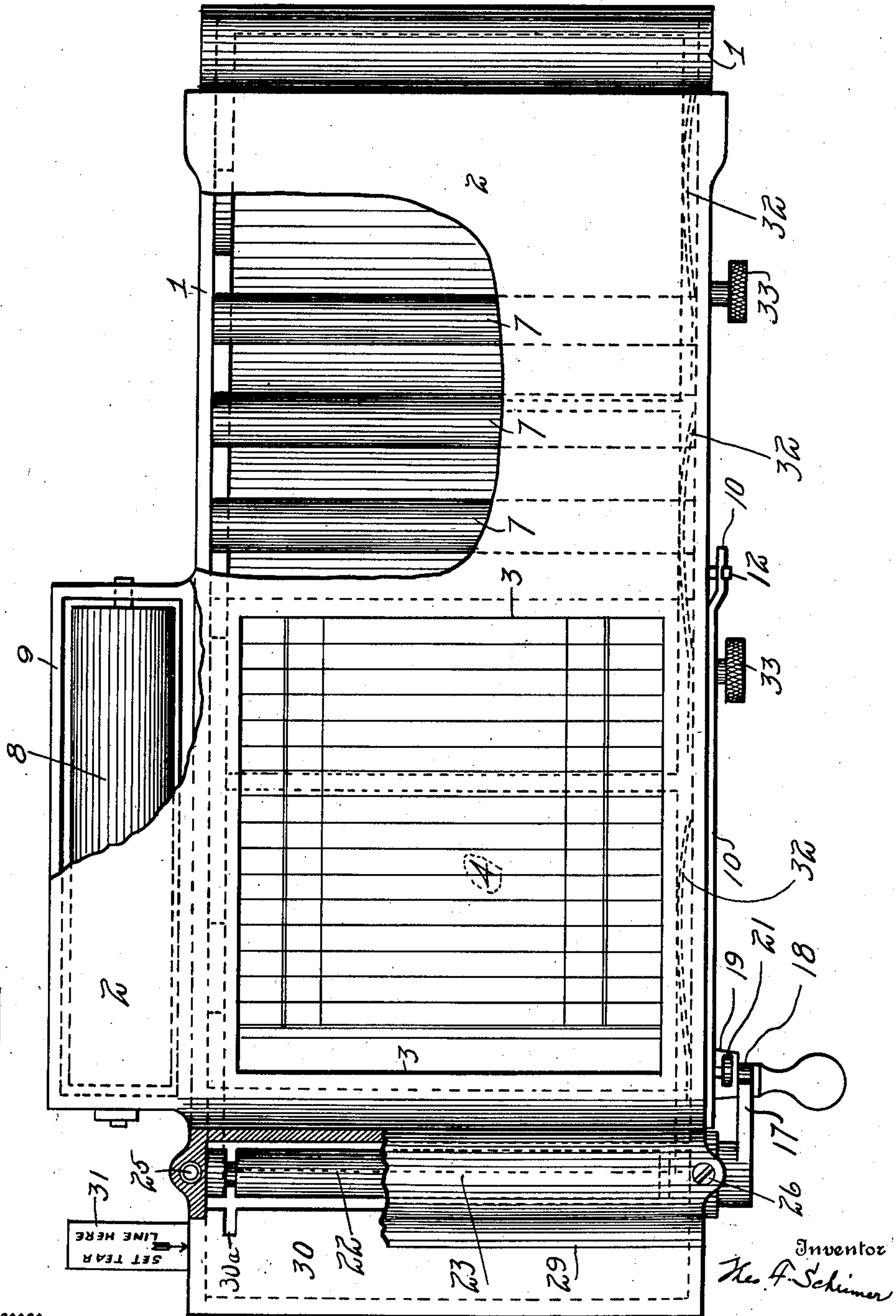
940,481.

T. F. SCHIRMER.
SHIPPING BILL REGISTER.
APPLICATION FILED MAY 17, 1909.

Patented Nov. 16, 1909.

4 SHEETS—SHEET 1.

FIG. 1.



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By

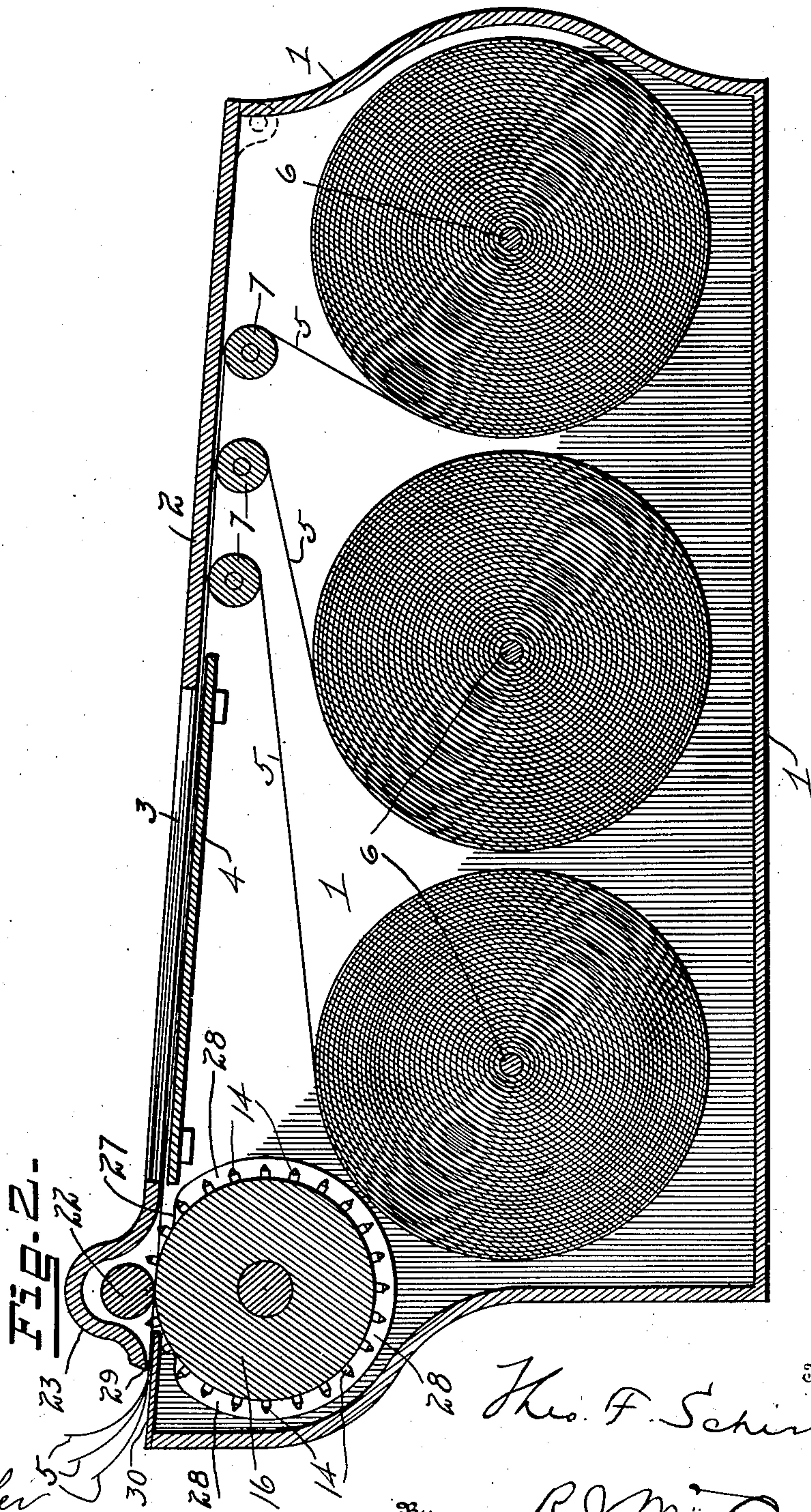
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4 SHEETS—SHEET 2.



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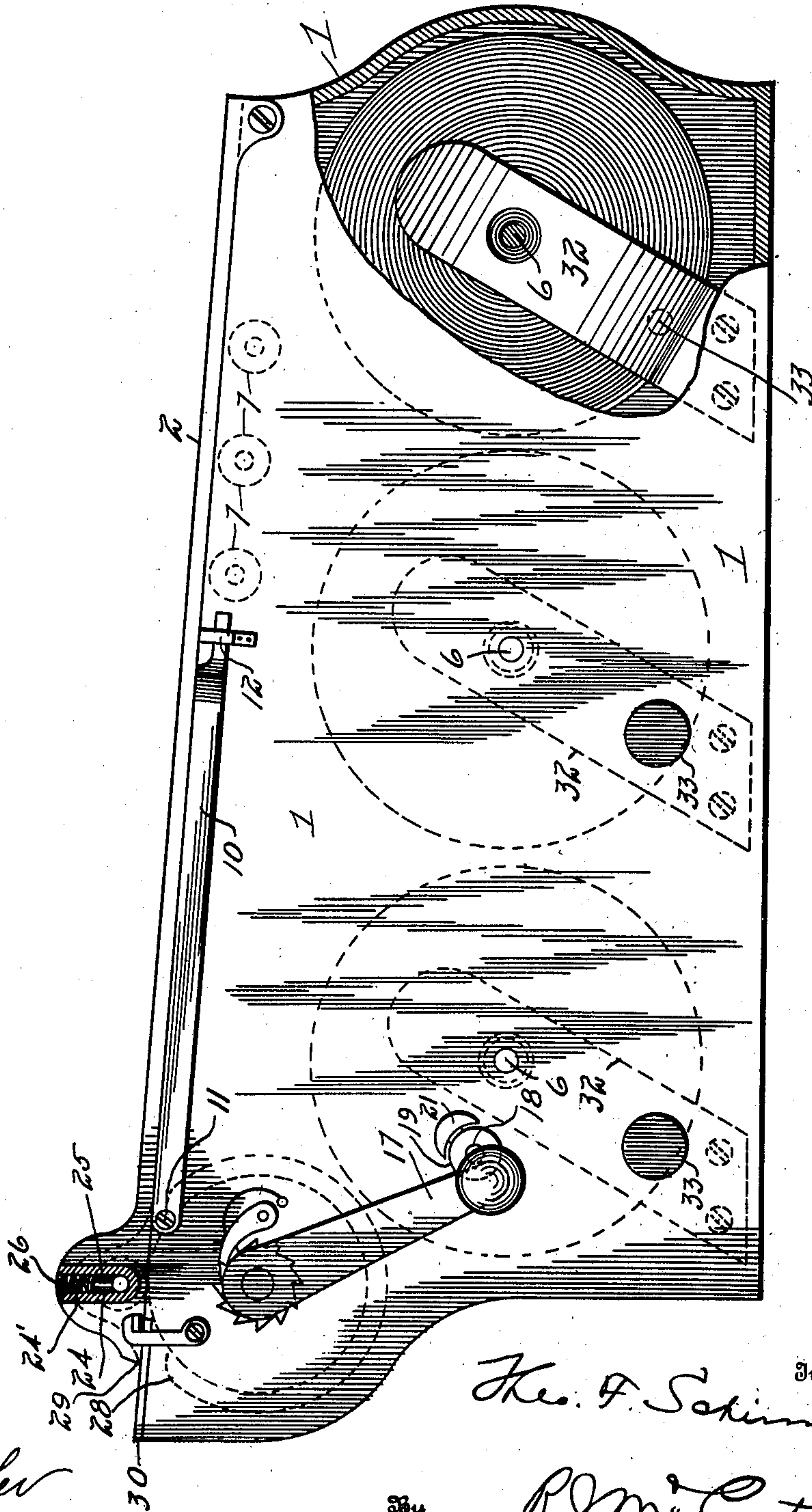
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4 SHEETS—SHEET 3.

Fig. 3.



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4 SHEETS—SHEET 4.

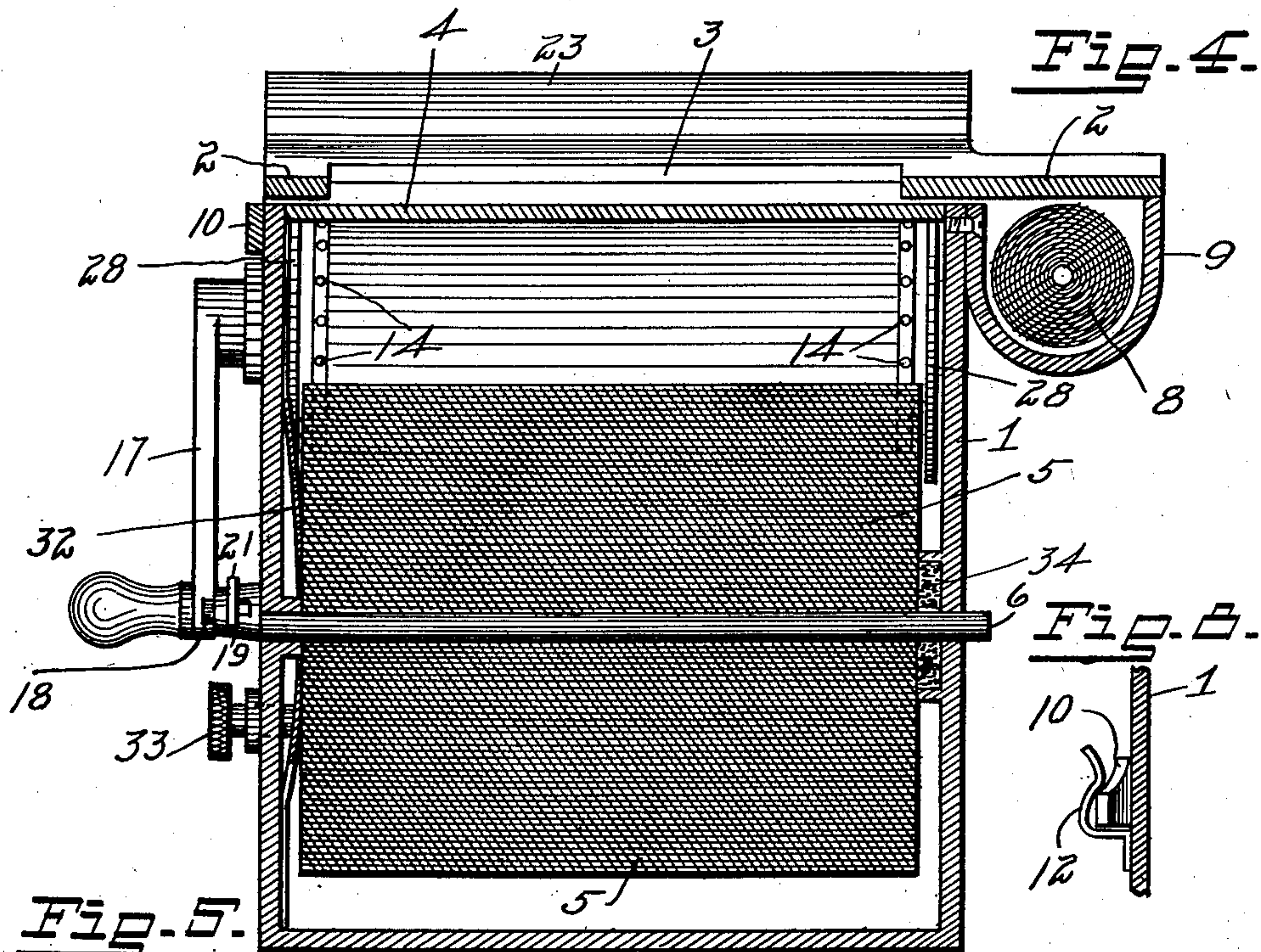


Fig. 4.

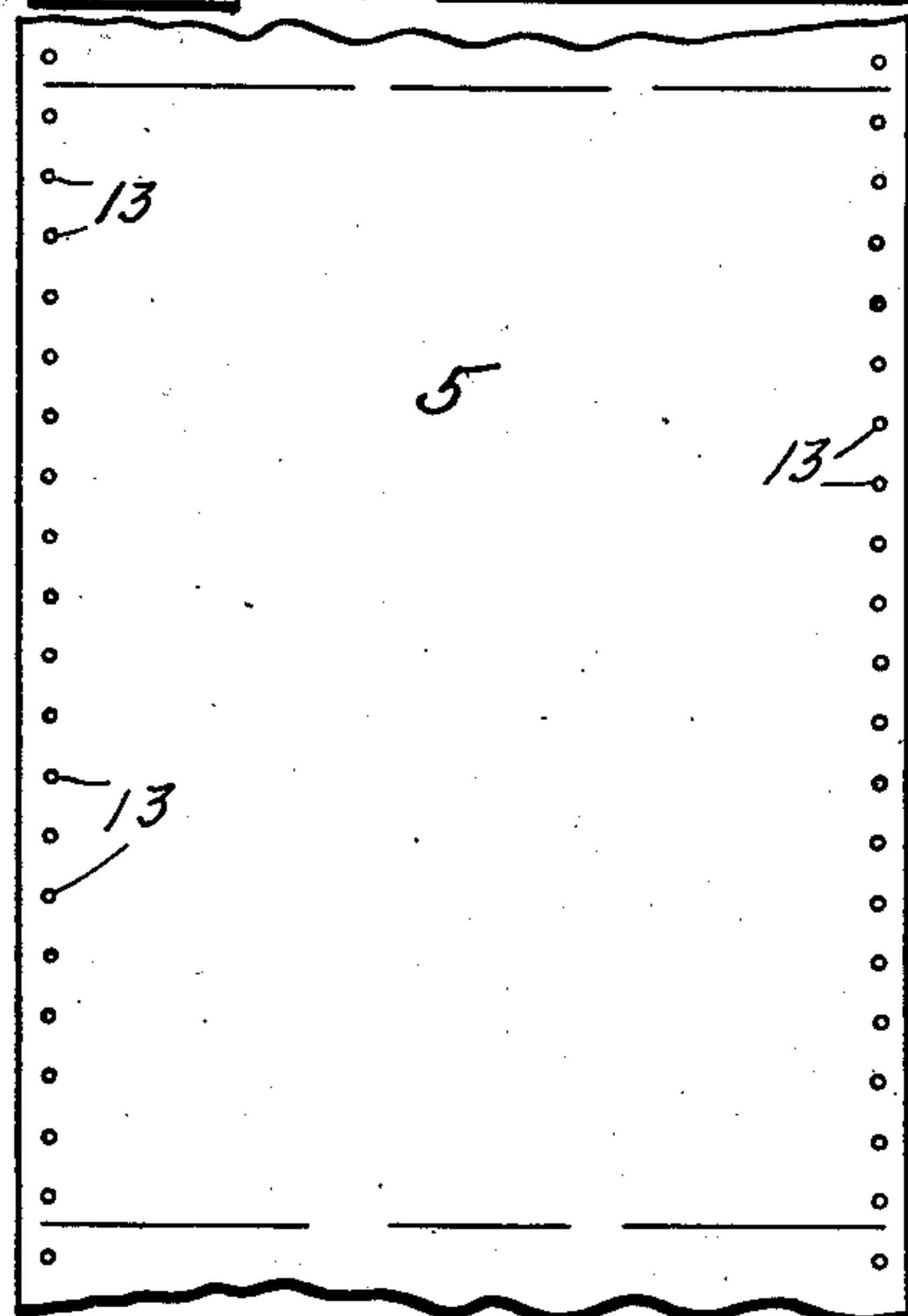


Fig. 5.

Witnesses
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C. M. Theobald.

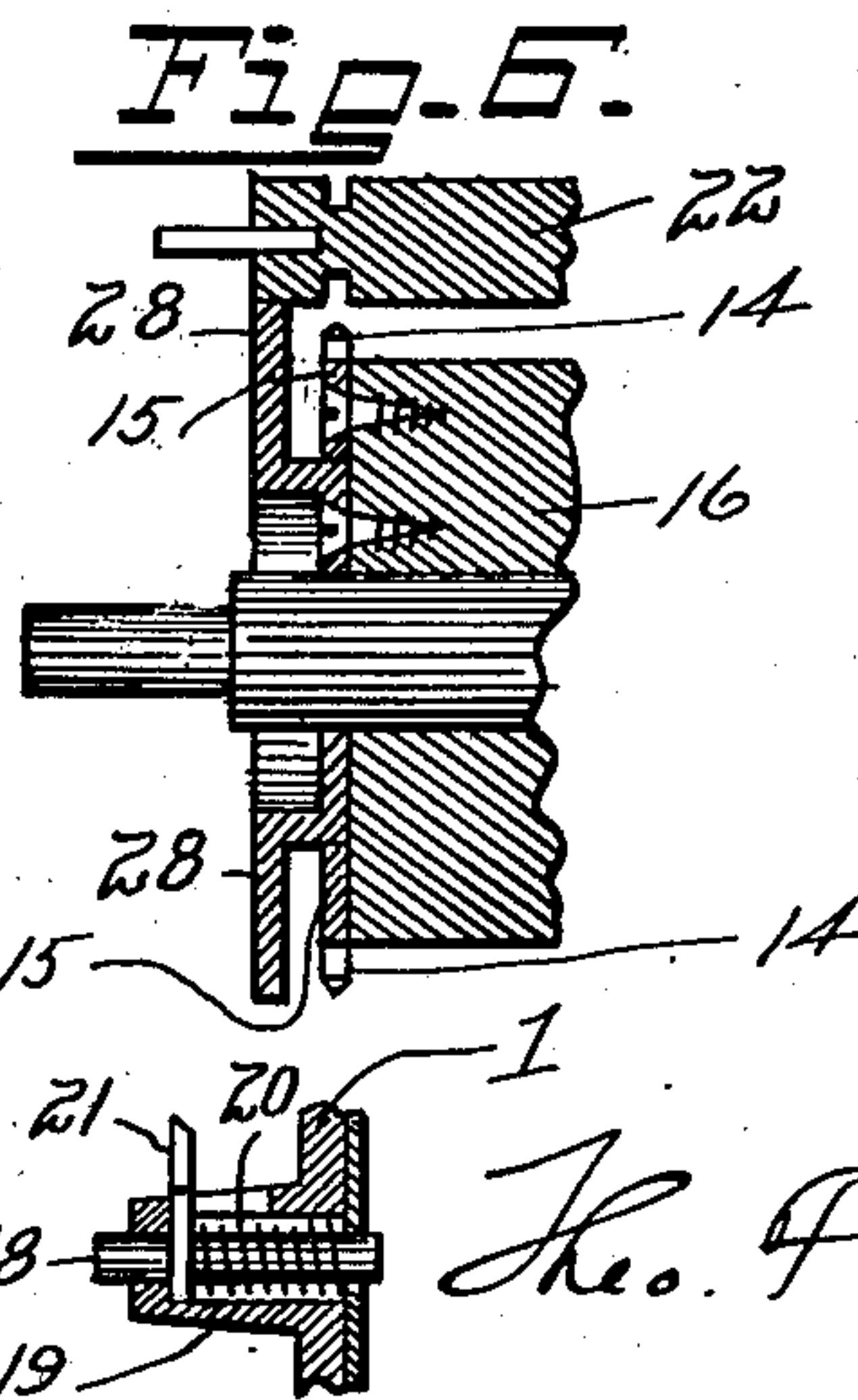


Fig. 6.

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UNITED STATES PATENT OFFICE.

THEODORE F. SCHIRMER, OF DAYTON, OHIO.

SHIPPING-BILL REGISTER.

940,481.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed May 17, 1909. Serial No. 496,602.

To all whom it may concern:

Be it known that I, THEODORE F. SCHIRMER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Shipping-Bill Registers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to new and useful improvements in shipping bill registers.

The object of the invention is to provide accurate means for feeding two or more sheets of paper from a similar number of rolls within the cabinet, so that the writing lines of said sheets will at all times be in alinement. Heretofore, in machines of this character, more or less difficulty has always been experienced in maintaining the writing lines of the paper in uniform positions. Where this is not done, the writing on the sheets below the top sheet is out of a proper position or is not in position corresponding to the positions on the top sheet. For example, the writing on the top sheet is always between the lines, but such is not the case with the lower sheets, and this difficulty is due to an inaccuracy of feed. The present invention removes this difficulty and provides a feed which maintains the writing lines of all the sheets in alinement.

Other new and useful features of my invention comprise various details, all of which combine to produce a shipping bill register which overcomes substantially all of the difficulties heretofore experienced in machines of this character.

Preceding a detailed description of the invention, reference is made to the accompanying drawings, of which—

Figure 1, is a top plan view of my improved shipping bill register with portions broken away. Fig. 2, is a longitudinal mid-sectional elevation of the same. Fig. 3, is a side elevation with a portion of the casing broken away. Fig. 4, is a vertical sectional elevation through one of the rolls of paper. Fig. 5, is a view of a portion of the paper used in the machine with the writing lines omitted as they may be varied to suit

different requirements. Fig. 6, is a detail sectional view of one end of the feed roller and the adjacent pressure roller. Fig. 7, is a detail view of the stop which arrests the crank handle at the end of a complete revolution. Fig. 8, is a detail view of the means for holding the carbon sheets in position.

The inclosing case 1 consists of a bottom with upright sides and ends which may be of any requisite size and ornamental design. A detachable cover 2 incloses the top of the casing and is provided with the usual opening 3 which lies above a platen 4 upon which the sheets of paper, together with the carbon sheets rest.

In the drawings, I have shown three sheets of paper 5 leading from a similar number of rolls supported upon spindles 6 suitably mounted in the sides of the casing. The paper extending from the rolls passes over guide rollers 7 mounted in the upper portions of the side walls of the casing, and thence over the platen 4 to the front end of the machine. The sheets of carbon are unwound from a carbon roll 8 which is mounted in a housing 9 extending from a side of the machine. In the present case there are two sheets of carbon on said roll.

In Fig. 4, the carbon sheets are not shown extended from the roll, but it will be understood in practice, these carbon sheets lie between the sheets 5 and above the platen 4 in a well-known manner. When thus extended across the platen 4, said carbon sheets may be secured at the opposite sides of the casing by means of a bar 10 which is pivoted at 11 and has its free end secured by a clamp 12 fixed to the side of the casing. See Figs. 3 and 4. This bar 10 clamps the ends of the carbon sheets and holds the same in position. The sheets of paper from the rolls are especially prepared for use in this type of register. For example, in Fig. 5, the parallel edges of the paper are shown to have perforations 13 at uniform distances apart and in exact alinement with each other, that is to say, the perforations on one edge of the paper are in alinement with those on the other edge. These perforations are preferably round and they are stamped in the sheets at the same time the sheets are printed with the writing lines and columns. Engaging these perforations or openings in the sheets of paper are two series of properly-constructed pins 14 which extend from the peripheries

of two circular plates 15 rigidly mounted on the ends of a feed roller 16. The positions of the pins 14 relatively to each other, correspond to the positions of the perforations or openings 13 in the sheets of paper 5, that is to say, in the rotation of the roller 16, the pins 14 successively engage said openings 13 and advance the sheets of paper a uniform distance each time. It will be observed the extreme ends of the pins 14 are tapered to enable them to readily enter the perforations or openings in the edges of the sheets. The circumferences of the plate 15 upon which the pins are mounted, are equal to a length of a bill, therefore, one complete revolution of the roller 16 will feed a complete bill from the machine.

In Fig. 5, the cross lines indicate the tear lines which inclose between them the length of a complete bill. The feed roller 16 is suitably mounted in the forward end of the casing and the shaft on one side thereof is projected from the casing, as shown in Fig. 6 to receive the boss of a crank 17 through which said feed roller is rotated to feed the sheets of paper. At each complete rotation of the crank 17 it is stopped by a pin 18 mounted in a housing 19 on one side of the machine. The pin 18 is normally held out in the path of the crank by a spring 20 which is coiled around said pin, and projecting from said pin is a finger-piece 21 by means of which the pin may be moved out of the path of said crank in each initial movement of said crank, see Fig. 7. It is obvious that other means may be employed for stopping the crank or feed roller at the end of each complete rotation. Above the feed roller 16 is mounted a pressure roller 22 which engages the sheets of paper at the end of each complete rotation of the roller 16 and holds said sheets firmly against the surface of the roller 16 while said sheets are being severed at the front of the machine. The pressure roller 22 is inclosed within a housing 23 formed in the front end of the cover 2, and the journals of said pressure roller lie in slots 24 in the end walls of said housing as shown in Fig. 3. The journals of said roller are yieldingly maintained in their bearings by coil springs 24' inclosed between blocks 25 which engage directly the upper sides of the roller journals, and screw plugs 26, see Figs. 1 and 3. It is necessary that the pressure roller 22 shall engage the sheets of paper only at the expiration of each feeding operation. As shown in Fig. 2, the said roller is lowered against the sheets of paper, while in Fig. 6, it is elevated therefrom. These two positions of said pressure roller are effected by a cam ring 28 which has a portion of its circumference lowered to a plane coincident with the circumference of the roller 16. There is one of these cam rings 28 secured to each end of

the pressure roller 16 in positions to engage the ends of the pressure roller at points beyond the feed roller 16. The depressed portions 27 of the cam ring are in positions which permit said pressure roller to descend against the sheets of paper at the end of each feeding operation and to rise therefrom upon each initial movement of said feed roller in order to not obstruct each feeding movement of the sheets of paper. The extreme front end of the cover 2 is provided with a suitable knife edge 29 by means of which the bills are severed from the sheets after said sheets are fed through the machine. The sheets of paper are fed between this knife edge 29 and a stripping plate 30 which is located at the extreme end of the machine and which projects inwardly, and at each end is provided a recess 30^a which straddles the pins 14 on the roller 16. These recesses allow the plate 30 to come in close contact with the feed roller 16, and prevent the paper from being carried around by said feed roller. On one end of the stripping plate 30 there is an indication 31 which provides a guide for locating the tear line of the bills whenever the machine is newly supplied with paper. After this is once accomplished, the tear line always appears at the cutting edge 29, which cutting edge it will be observed is in a line with the arrow indicated on the plate 31.

Suitable tension is provided for governing the unwinding of the rolls of paper which consists of resilient plates 32 secured at their lower ends to the inner side of the casing, and extending in contact with the ends of said rollers. The tension of these plates is regulated by adjusting screws 33. Means are also provided for preventing the shafts of the paper rolls from dropping out of their bearings in the sides of the casing; these means consist of friction disks 34 which surround one end of each of said paper roll shafts on the inner side of the casing. The said disks 34 are constructed of any suitable material such as leather or cork, and the openings therein are slightly smaller than the shafts in order to bind said shafts and hold them in position during the shipment of the machine.

I do not wish to limit myself to the specific construction described as it will be obvious that various modifications may be made without departing from the spirit of the invention.

Having described my invention, I claim:

1. In a shipping bill register, two series of pins, a rotating body upon which each series of pins are mounted, means for rotating said body to cause the pins of each series to successively engage perforations uniformly arranged in sheets of paper placed one upon the other, a pressure roller adapted to engage said sheets at the termination of each feed-

ing operation and to release said sheets at the beginning of each feeding operation, and means so controlling said pressure roller.

2. In a shipping bill register, two series of pins mounted upon a rotating body, means for rotating said body to cause the pins of each series to successively enter perforations in a plurality of sheets of paper arranged one above the other to uniformly feed said sheets, a cutting edge for severing said sheets, and a pressure roller adapted to rigidly engage said sheets at the termination of each feeding operation and to hold said sheets while they are being severed.

3. In a shipping bill register, two series of pins mounted upon a rotating body, means for rotating said body to cause the pins of

both series to uniformly and successively enter perforations in a plurality of sheets of paper arranged one above the other to uniformly feed said sheets, a stripping plate adapted to strip the sheets from said pins, a cutting edge for severing said sheets, a pressure roller adapted to rigidly hold said sheets while being severed, and cams controlling said pressure roller and adapted to elevate said roller during each feeding operation.

In testimony whereof I affix my signature, in presence of two witnesses.

THEODORE F. SCHIRMER.

Witnesses:

R. J. McCARTY,
MATTHEW SIEBLER.