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BED PLATE FOR MACHINERY.  
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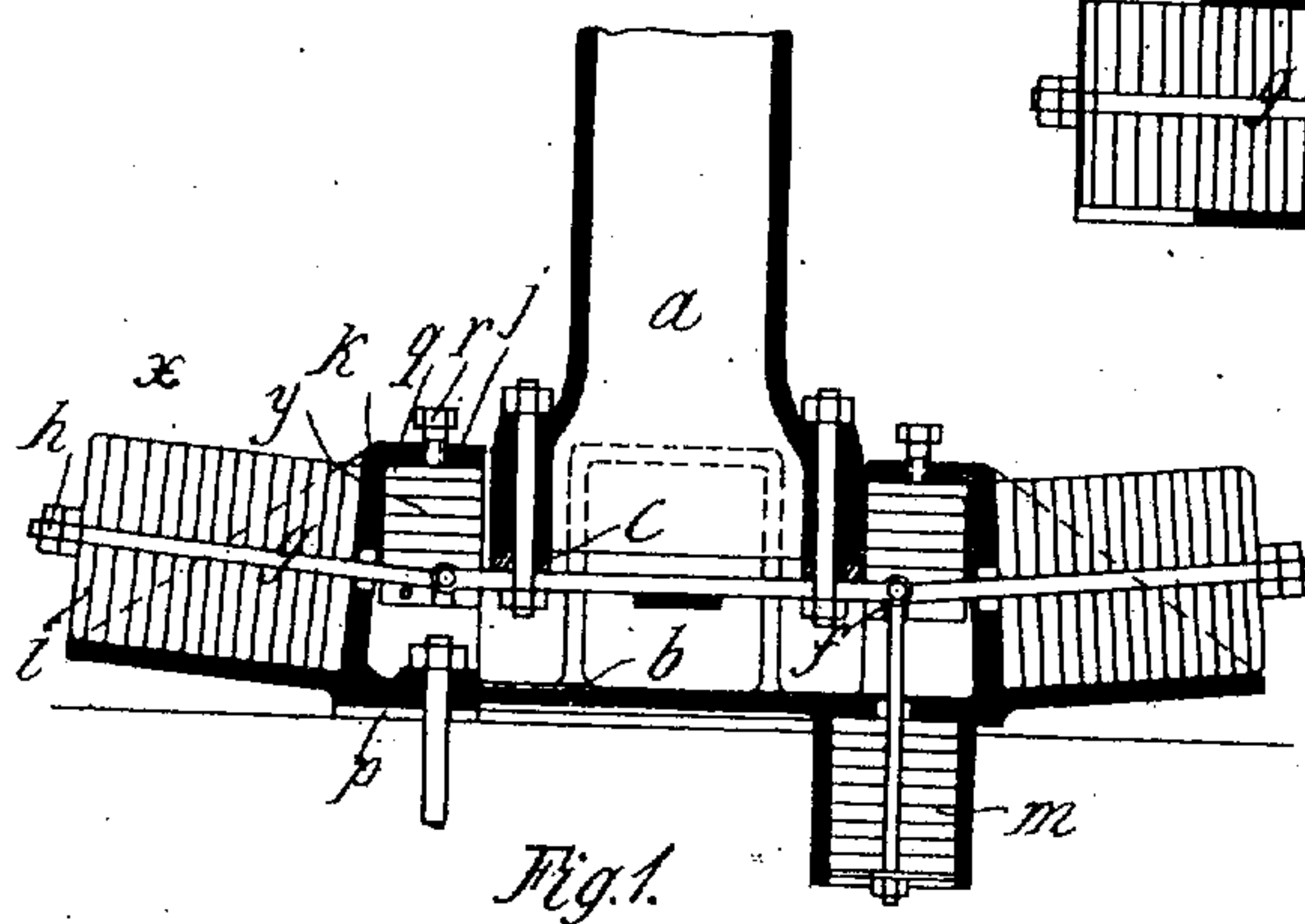


Fig. 1.

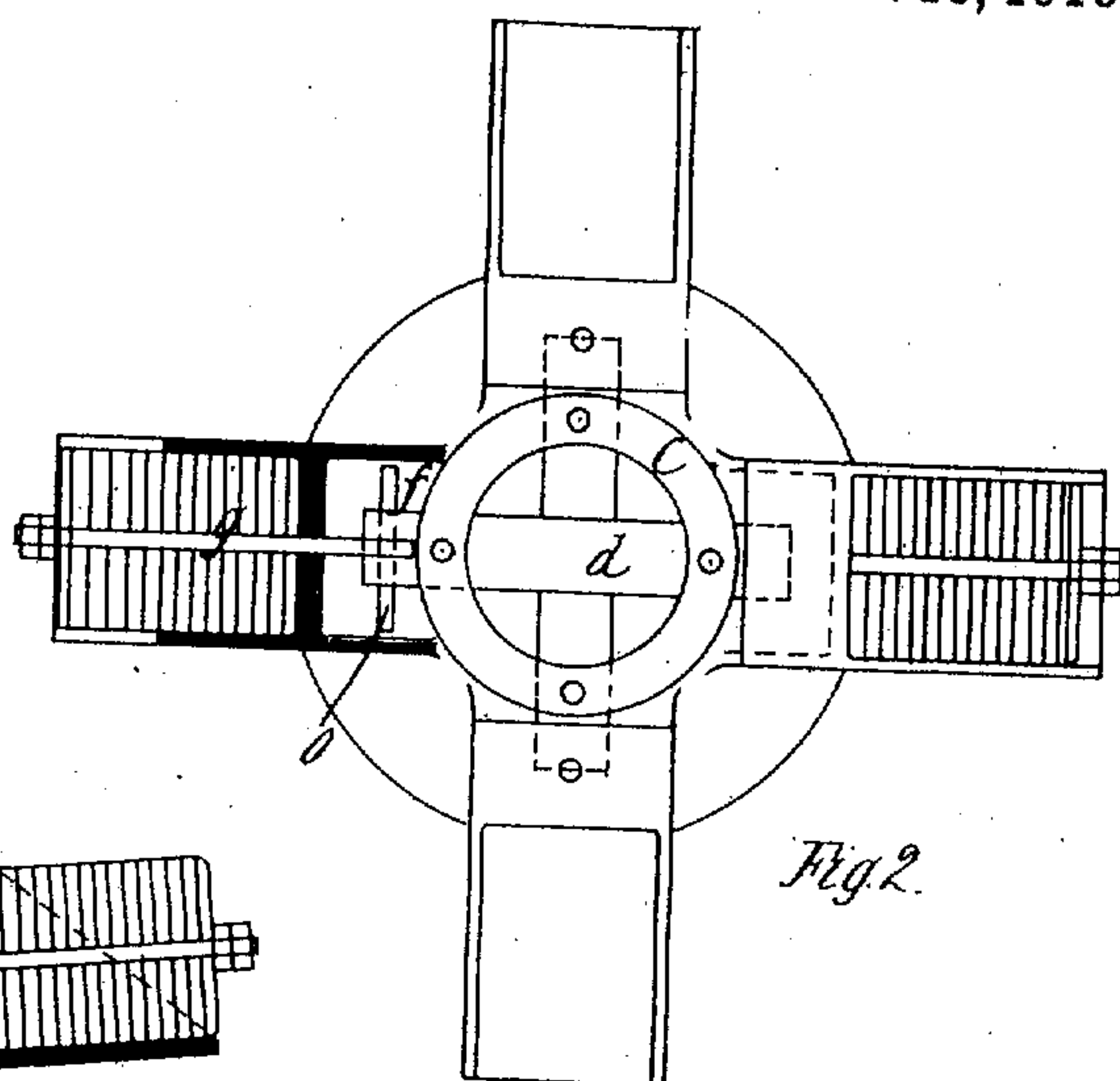


Fig. 2.

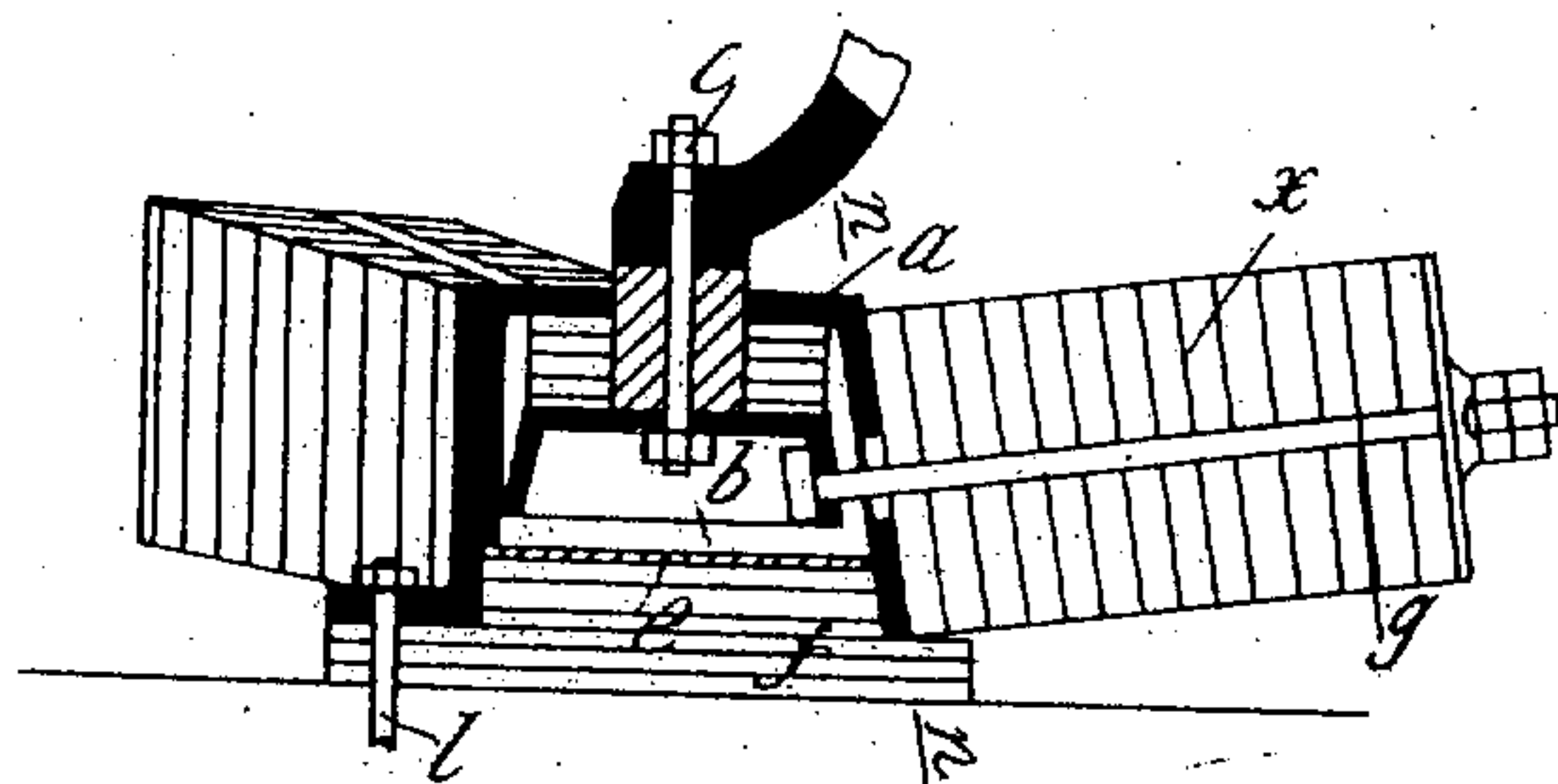


Fig. 3.

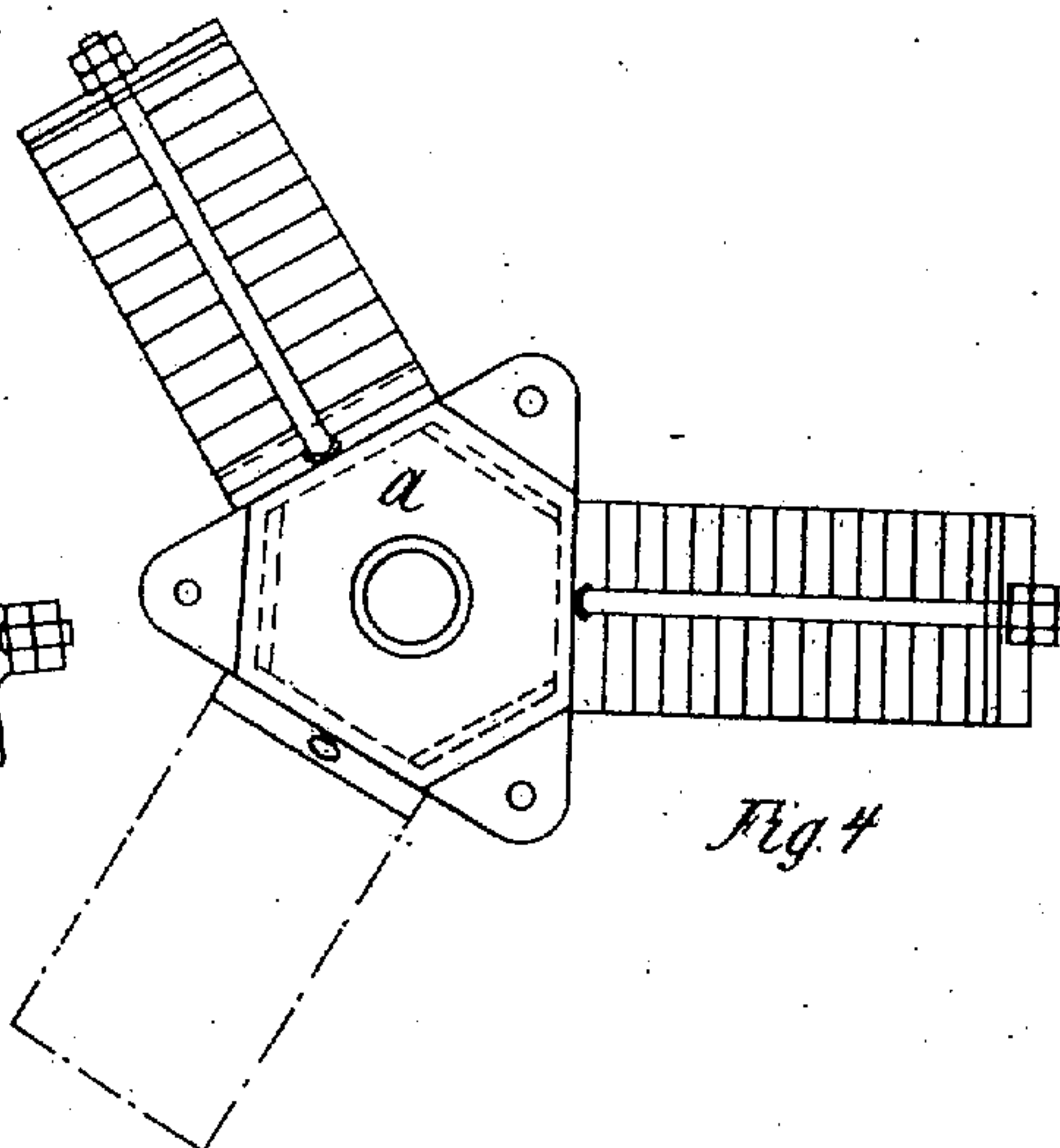


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## BED-PLATE FOR MACHINERY.

976,126.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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To all whom it may concern:

Be it known that I, FRITZ GERB, a subject of the Emperor of Germany, residing at Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Bed-Plates for Machinery; and I 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.

An inconvenience often experienced with machinery working at a high speed is that the machine is brought into a state of vibration, owing to the motion of reciprocating parts, and the vibrations being transmitted to the foundations, floor, or the like, there result general oscillation and noise, which prove extremely unpleasant and disturbing. Attempts have been made to overcome these drawbacks by inserting elastic layers between the machine and its bed. The inconvenience is that in order to insure sufficient damping of the vibrations and noise, there must be such a thickness of elastic material provided that in practice the method is not applicable. Furthermore many of the elastic materials employed lose their resilience after a time; their renewal however necessitates lifting of the machine from its bed, and as this frequently involves complete stoppage of work for a considerable period, the old material is often retained, although no longer fulfilling any useful purpose.

The above-mentioned defects can be obviated by means of the present invention. In carrying out the latter I secure the machine which is to be insulated to a support or frame, suspended at several places in the bed-plate, in such manner that the elastic layers instead of being superposed one upon the other can be disposed side by side in substantially horizontal direction. In this way very thick layers of elastic material can be provided without inconvenience.

A practical embodiment of my invention and certain modifications thereof are illustrated in the accompanying drawings.

Figure 1 is a vertical section. Fig. 2 is a sectional plan. Fig. 3 is a vertical section of a modification. Fig. 4 is a plan of Fig. 3.

$a$  represents a fragment of the machine which it is desired to insulate, while  $c$  is a frame or support on which it rests. To this

frame  $c$  bars  $d$  having pierced heads  $f$  are secured, and to the latter there are jointed rods  $g$  by means of pins  $o$ . The outer ends of the rods  $g$  are threaded and furnished with nuts  $h$ , which retain pressing-plates  $i$ . Between the plate  $i$  and the substantially upright wall  $k$  of the actual bed-plate  $b$  the elastic material  $x$  is inserted.

The wall  $k$  has a horizontal flange  $j$ , below which there is located a pressing-plate  $q$ , which can be actuated by a set-screw  $r$ . Below this plate  $q$  elastic material  $y$  is provided, against which the pin  $o$  of the rod  $g$  bears.

At the right hand side of Fig. 1, at  $m$ , a modification of this arrangement is illustrated.

Should vibrations occur in the machine  $a$ , they will be transmitted by the rods  $g$  to the elastic material, and by the latter again to the walls  $k$ , and thence finally to the bed-plate  $b$ . Those vertical vibrations which have still not been absorbed by the elastic material, and which are due to the rods  $g$  being somewhat inclined to the horizontal, are taken up by simple resilient layers  $p$ .

In the event of there being pronounced one-sided loads, such as is the case especially with those machines in which in regular working the center of gravity shifts in horizontal direction, tipping of the machine will be prevented by the pin  $o$ , in conjunction with the elastic material  $y$ , pressing-plate  $q$  and screw  $r$ .

In many cases it may prove advantageous not to mount the entire machine on a single frame and insulate the latter, but to apply the insulation below each foot of the machine, or at each foundation-bolt. Figs. 3 and 4 illustrate this method. The bed-plate  $a$  is provided with three or more inclined walls  $n, n$ , against which the elastic layers  $x$  bear. The rods  $g$  pass through a plate  $b$ , and upon this the foot of the machine is secured by a screw-bolt  $c$ . On the plate  $b$  are superposed the elastic layers  $z$ . Below the plate  $b$  there is located a plate  $e$ , which bears against shoulders or ledges of the bed  $a$  and transmits the resulting pressures to the elastic layers  $f$  and to the floor. Should the frictional contact prove insufficient, the bed  $a$  may be bolted down by bolts  $l$ . The device operates in the same manner as that shown in Figs. 1 and 2.

Having thus described my invention, I



declare that what I claim as new and desire to secure by Letters Patent is—

1. In combination, a bed-plate presenting substantially upright walls and a horizontal flange, a machine-support located within the bed-plate, substantially horizontal rods holding the support and passing through the bed-plate walls, elastic material located between the said walls and the outer ends of the rods, and taking up the pull of the latter, and further elastic material located below the said bed-plate flange and adapted to take up the upward pull on the said support, substantially as described.

2. In combination, a bed-plate presenting substantially upright walls, a machine-support located within the bed-plate, substan-

tially horizontal rods holding the support and passing through the bed-plate walls, elastic material located between the said walls and the outer ends of the rods, and taking up the pull of the latter, pendent rods jointed to the first said rods and extending through the base of the bed-plate, and elastic material located between the said base and the bottom ends of the pendent rods, substantially as described.

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

FRITZ GERB.

Witnesses:

WILLIAM GERB,  
HUGH GRAMATZKI.