

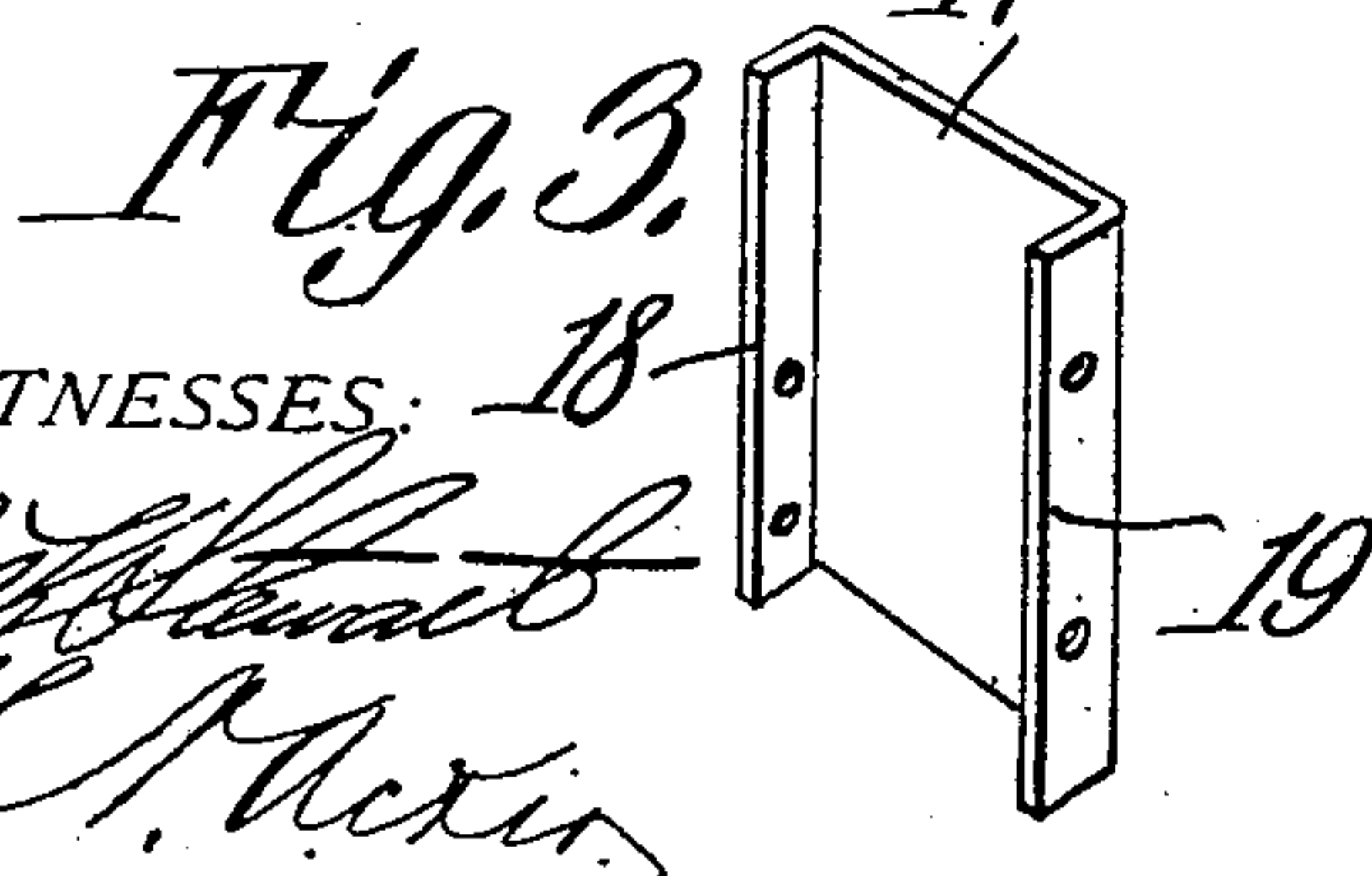
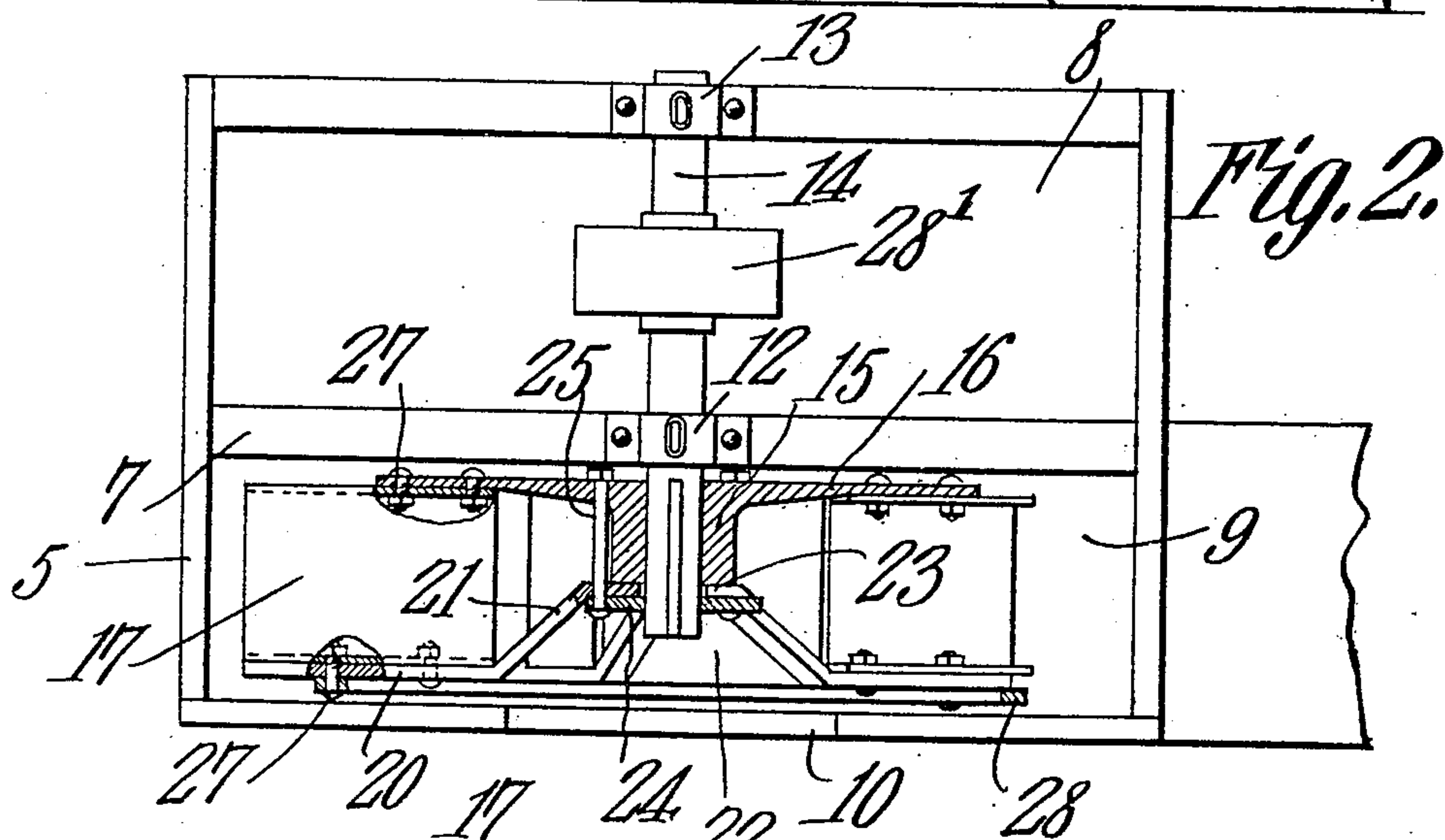
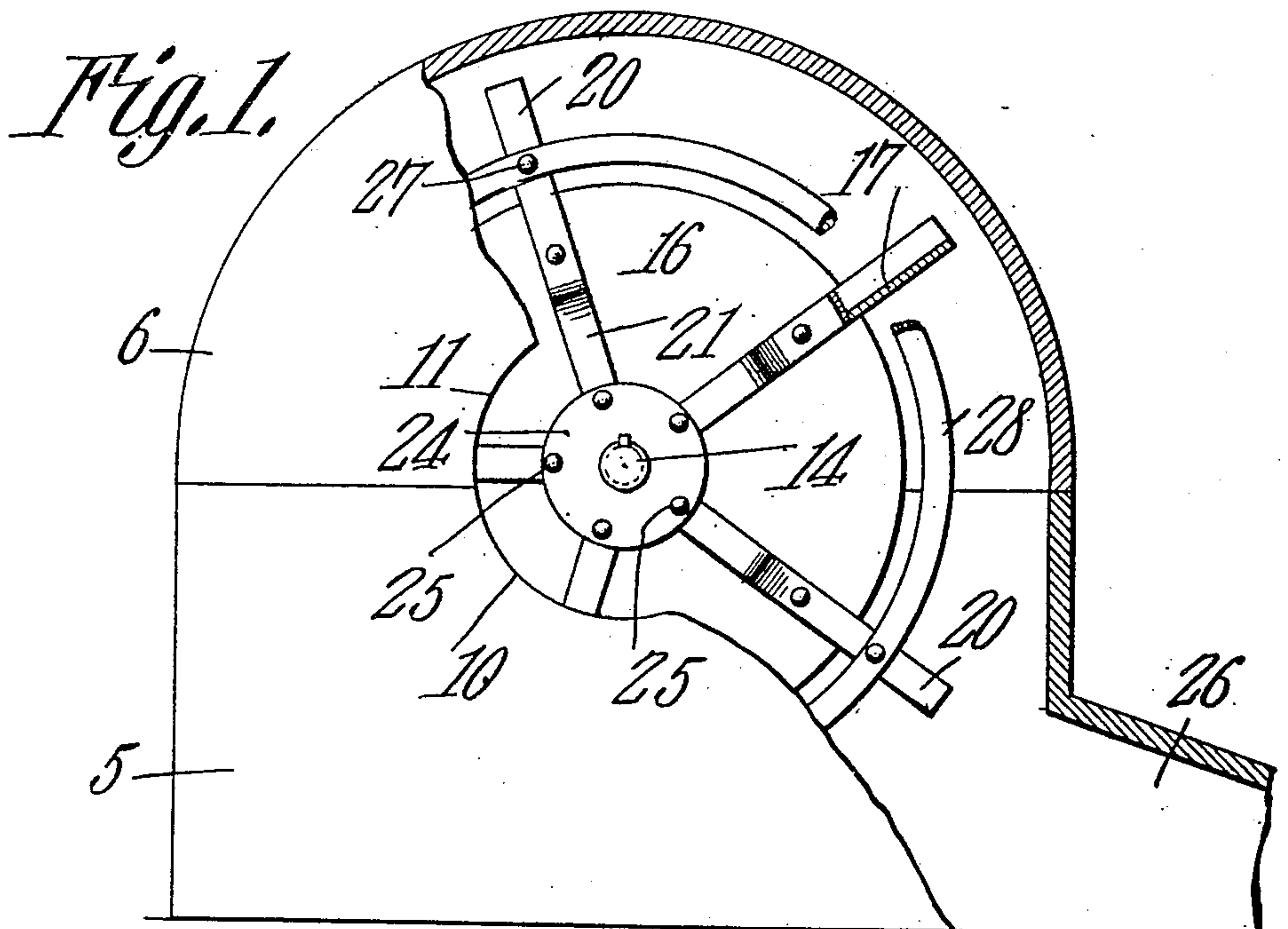
No. 865,394.

PATENTED SEPT. 10, 1907.

G. T. KERINS & E. G. NAYLOR.

SAWDUST BLOWER.

APPLICATION FILED MAY 20, 1907.



WITNESSES:

E. G. Naylor
L. A. Naylor

George T. Kerins
Ellsworth G. Naylor
INVENTORS

By *C. A. Naylor*
ATTORNEYS



UNITED STATES PATENT OFFICE.

GEORGE T. KERINS AND ELLSWORTH G. NAYLOR, OF OAKLAND, MARYLAND.

SAWDUST-BLOWER.

No. 865,394.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed May 20, 1907. Serial No. 374,649.

To all whom it may concern:

Be it known that we, GEORGE T. KERINS and ELLSWORTH G. NAYLOR, citizens of the United States, residing at Oakland, in the county of Garrett and State of Maryland, have invented a new and useful Sawdust-Blower, of which the following is a specification.

This invention relates to fan blowers for saw mills, work shops and the like and has for its object to provide a strong, durable and thoroughly efficient device of this character for removing saw-dust, chips, shavings and other material from the saw-mill and discharging the same into a receptacle or other place of delivery.

A further object of the invention is to provide a casing having a fan mounted for rotation therein and provided with a plurality of radiating blades the inner ends of which are reduced to form a centrally disposed pocket or chamber for the reception of the dust laden air.

A further object is to provide the hub of the fan with an annular flange or extension for deflecting the shavings or chips and distributing the same uniformly over the blades or paddles, and further to reinforce and strengthen the blades by the provision of one or more rings or bands.

A still further object of the invention is to provide a fan which may be readily set up for use and one in which the several parts may be quickly removed and replaced when the same become worn or otherwise injured from constant use.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation partly in section of a fan blower constructed in accordance with my invention. Fig. 2 is a horizontal sectional view of the fan with the upper section of the casing removed. Fig. 3 is a perspective view of one of the blades or paddles detached.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved device forming the subject matter of the present invention comprises a casing or housing, preferably formed in two sections 5 and 6, the lower one of which is divided by a longitudinal partition 7 into a plurality of compartments 8 and 9.

The lower section 5 is provided with a semi-circular opening 10 which communicates with the fan-receiving chamber 9 and is adapted to register with a correspondingly shaped opening 11 formed in the upper section 6 when said sections are assembled thereby to form an intake for the dust laden air.

Mounted for rotation in suitable bearings 12 and 13 is a shaft 14 to which is keyed or otherwise rigidly

secured the hub 15 of the fan or blower. The hub 15 is mounted for rotation in the chamber 9 and is provided with an annular flange or extension 16 which forms a support for the radiating blades or paddles 17. The blades or paddles 17 are each preferably stamped or otherwise formed from a single piece of metal having their opposite edges bent laterally to form spaced longitudinal flanges 18 and 19 one of which is bolted or otherwise rigidly secured to the annular flange 16 of the hub while the opposite flange is secured to an angularly disposed bar or spoke 20. The inner ends of the spokes 20 are deflected laterally at 21 to form a chamber or pocket 22 while the terminals of said spokes bear against the reduced end of the hub 15.

The contact arms or fingers 23 of the spokes are held in engagement with the adjacent end of the hub 15 by means of a circular plate or disk 24 which surrounds the shaft and bears against said arms, as shown, there being suitable clamping bolts 25 carried by the disk and piercing the arm 23 and annular flange 16 for fastening the several parts in assembled position. Attention is here called to the fact that the annular flange 16 extends to approximately the center of the blades or paddles 17 while the inner ends of the blades or paddles are spaced from the hub at the deflected portions of the spokes 21 to form an annular recess.

The flange 16 serves to deflect the chips or saw dust entering through the intake of the casing and deflect the same uniformly over the blades or paddles, whereby the same may be discharged through a chute 26 into a receptacle or other place of delivery. The blades or paddles are detachably secured to the spokes and flange 16, respectively, by bolts or similar fastening devices 27 so that said blades may be readily removed and replaced by new ones when the same become worn or otherwise injured from constant use. The front of the fan is also preferably reinforced and strengthened by the provision of one or more bands or rings 28, said bands being secured in position by some of the bolts 27. One end of the shaft 14 extends transversely across the chamber 18 and is provided with a drive pulley 28' which may be connected through the medium of a belt with an engine, motor or other suitable source of power thereby to rotate the fan. It will here be observed that the upper section 6 of the casing is of less width than the lower section 5 and rests on the transverse partition 7 and the front wall of said section so as to permit the belt to be readily attached to or removed from a drive pulley 28 without the necessity of removing the upper section of said casing.

In operation the air laden with saw dust, chips, shavings and other material is sucked or drawn through the intake of the casing or housing and in coming in contact with the extension 16 is deflected laterally and uniformly distributed over the several blades or paddles, the rotation of the same causing the material to be

discharged through the chute 26 to the place of delivery, in the manner before described.

The fans may be made in different sizes and shapes and provided with any number of blades or paddles without departing from the spirit of the invention.

While the blower is principally designed for use in connection with saw-mills it is obvious that the same may be used with equally good results in work shops, factories or wherever a fan of this character is found desirable.

Having thus described the invention what is claimed is:

1. A device of the class described including a casing having an air-intake, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a lateral flange, spokes spaced from the flange and bearing against one end of the hub, blades interposed between the spokes and flange, and fastening devices engaging the flange for clamping the spokes in engagement with the hub.

2. A device of the class described including a casing provided with an air-intake, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends deflected laterally for engagement with the adjacent end of the hub, blades interposed between the spokes and flange, respectively, a disk bearing against the inner ends of the spokes, and clamping devices piercing the disk and flange for clamping the spokes in engagement with the hub.

3. A device of the class described including a casing provided with an air-intake, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends deflected laterally and provided with terminal bearing arms adapted to engage the adjacent end of the hub, blades interposed between the spokes and flange and terminating short of the hub, a disk

surrounding the shaft and bearing against the terminal arms of the spokes, and clamping devices carried by the disk and piercing the arms and flange, respectively for clamping the several parts in assembled position.

4. A device of the class described including a casing provided with an air-intake, a shaft journaled in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends bent inwardly and provided with terminal bearing arms adapted to engage the adjacent end of the hub, blades interposed between the flange and spokes, respectively and provided with laterally extending attaching flanges, a disk surrounding the shaft and engaging the terminal bearing arms, fastening devices piercing the disk and flange, respectively, for clamping the bearing arms in engagement with the hub, the flange of said hub extending to approximately the center of each blade.

5. A device of the class described including a casing provided with an air-intake and having a chute communicating with the interior of the casing, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends bent laterally and provided with terminal bearing arms adapted to engage the adjacent end of the hub, blades interposed between the flange and spokes, respectively, and provided with spaced longitudinal attaching flanges, a disk surrounding the shaft and engaging the bearing arms, bolts carried by the disks and pierced by the bearing arms of the spokes and flange, respectively, the inner ends of said blades being spaced from the hub, and a reinforcing band secured to the spokes and disposed concentric with the shaft.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

GEO. T. KERINS.
ELLSWORTH G. NAYLOR.

Witnesses:
WM. NEWMAN,
OWEN T. TREACY.