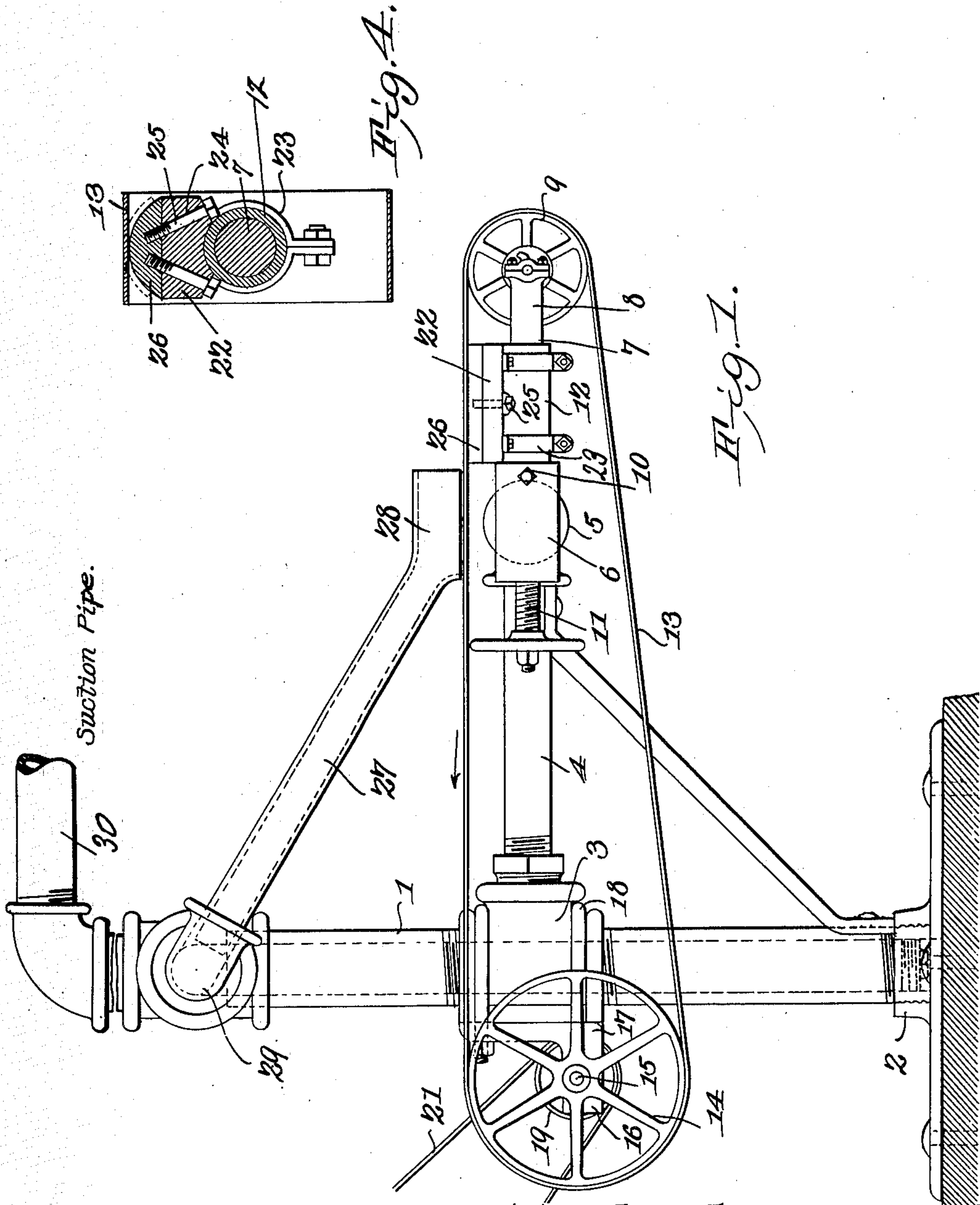


No. 860,367.

PATENTED JULY 16, 1907.

J. GRAMELSPACHER.
SANDPAPERING MACHINE.
APPLICATION FILED APR. 14, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

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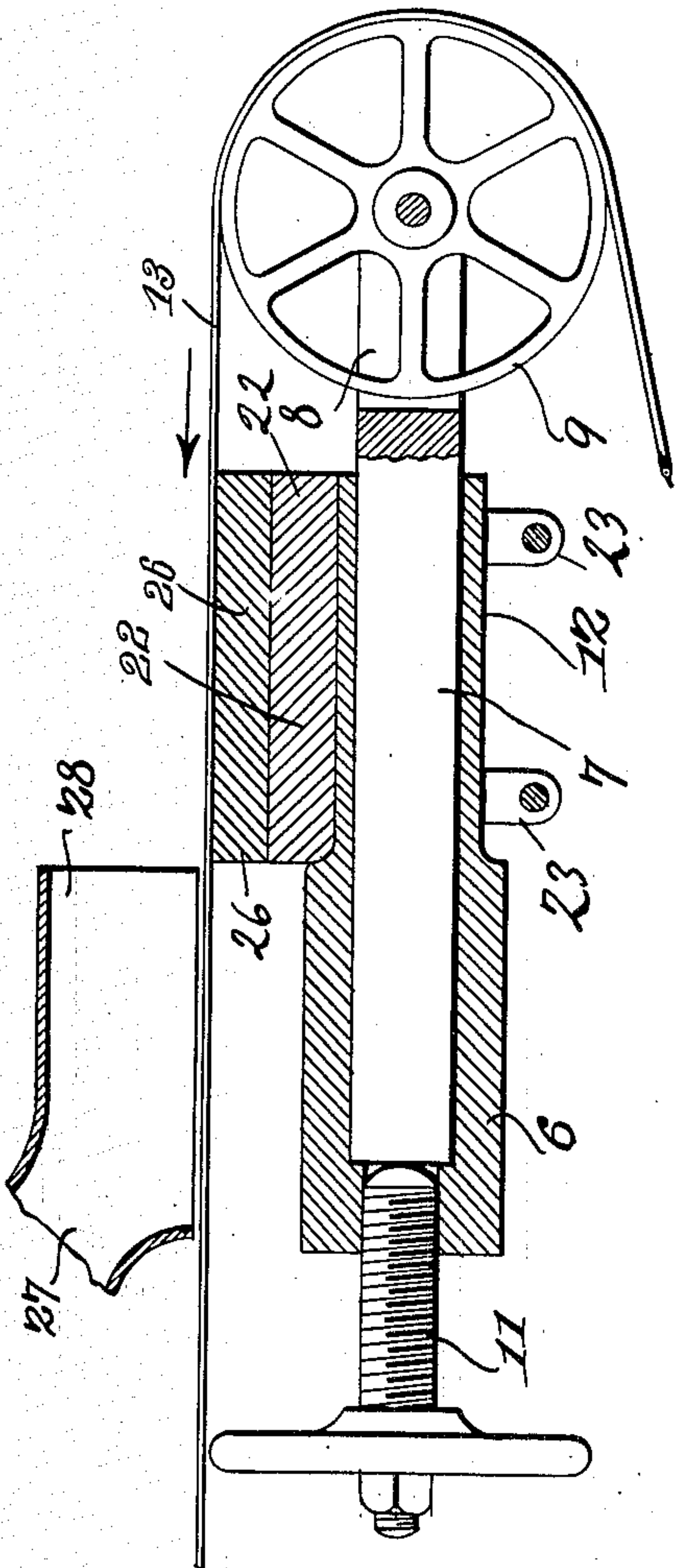


Fig. 3.

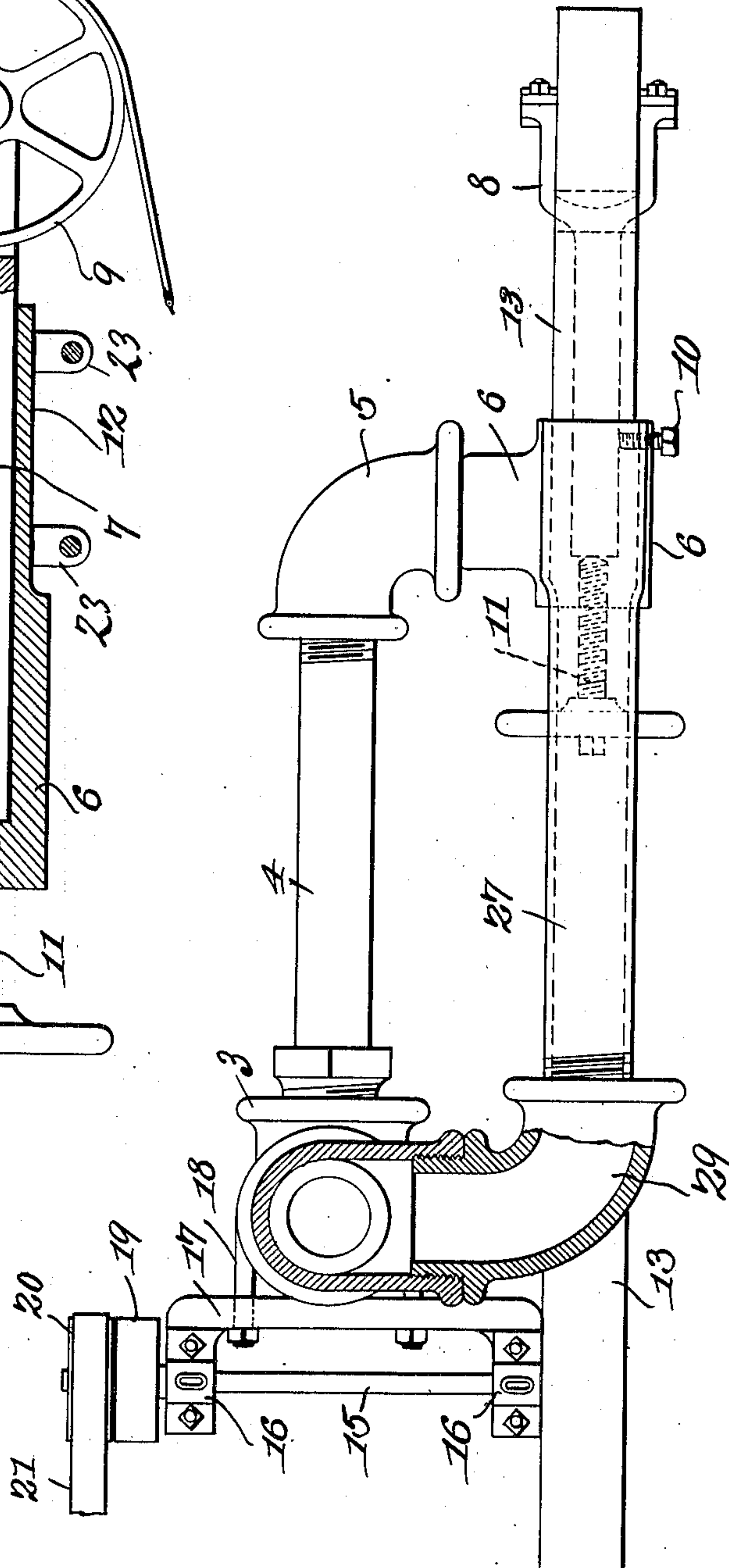


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN GRAMELSPACHER, OF JASPER, INDIANA.

SANDPAPERING-MACHINE.

No. 860,367.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed April 14, 1906. Serial No. 311,746.

To all whom it may concern;

Be it known that I, JOHN GRAMELSPACHER, a citizen of the United States, residing at Jasper, in the county of Dubois and State of Indiana, have invented a new and useful Sandpapering-Machine, of which the following is a specification.

This invention relates to sand papering machines of that class employing an endless abrasive belt, and has for its object to adapt the same for polishing curved surfaces as well as straight surfaces, and to facilitate the polishing of inside work as well as outside work.

A further object of the invention is to provide for the convenient substitution of formers of various shapes according to the character of the work, and to support such formers in coöperative relation with the belt so as to compel the latter to assume the shape of the work and thereby effectually polish all portions thereof.

A still further object of the invention is to provide for conveying the dust away from the operator in order that there may be no beclouding of the work.

With these objects in view, the invention consists in the combination and arrangement of parts as will be hereinafter more fully described, shown in the accompanying drawings and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size and minor details may be made, within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings,—Figure 1 is a side elevation of a sand papering machine embodying the features of the present invention. Fig. 2 is a plan view thereof, parts of the dust conveyer being broken away. Fig. 3 is an enlarged fragmentary sectional view through the lower end of the suction spout and the parts thereunder; and Fig. 4 is a cross sectional view through the belt and former.

Like characters of reference indicate corresponding parts in each of the several figures of the drawings.

For the support of the operating parts of the present apparatus, there is a standard 1 rising from a suitable bed or base 2 which is ordinarily secured to the floor of a building. By preference, this standard is tubular and is in communication with a suction pipe, into which the dust from the work is designed to be drawn and then carried off so as not to interfere with the work of the operator.

At a suitable height above the floor, a T or other coupling 3 is provided upon a tubular standard 1, and a substantially horizontal tubular arm 4 is connected with the coupling. Upon the outer end of the arm 4 is a tubular elbow 5, and a T-shaped coupling 6 is carried by the outer end of the elbow 5.

Working endwise through the head of the T-coupling 6 is the shank 7 of a fork or yoke 8 in which is mounted

a pulley 9 upon a horizontal axis. A suitable set screw 10 pierces the head of the coupling 6 and engages the shank of the yoke so as to hold the latter at any adjusted position. An adjusting screw 11 pierces the rear closed end of the coupling 6 and engages the rear end of the stem 7 so as to adjust the latter endwise. By preference, a sleeve or extension 12 projects forwardly from the T-coupling 6 so as to house the forward portion of the stem 7.

An endless abrasive belt 13 travels over the pulley 9, with its upper ply leading rearwardly across the top of the coupling or bracket 6 and around a larger pulley 14 carried by a horizontal shaft 15 mounted in spaced bearings 16 carried by the ends of a U-shaped or yoke-shaped bracket 17, which is in turn secured to the standard 1 in some suitable manner, for instance, by means of a clip or clamp 18. Opposite the pulley 14, the shaft 15 projects beyond the adjacent bracket and is provided with fast and loose pulleys 19 and 20, with which coöperate a drive belt 21.

It is proposed to locate the work support upon the bracket formed by the members 6 and 12, said work support consisting of a base or block 22 having clips or clamps 23 embracing the part 12 of the bracket so as to rigidly hold the base upon the top of the bracket member 12. This base projects at opposite sides of the bracket member 12, as best indicated by Fig. 4 of the drawings, and each projecting edge portion is provided with an upwardly and inwardly inclined opening 24 through which passes a screw 25 adapted to take into a threaded socket in the under flat side of an appropriate former 26, the upper face of which has a suitable configuration and is in engagement with the inside of the upper ply of the abrasive belt.

As shown in Fig. 4 of the drawings, the former 26 has a convex upper face, and when a piece of work having a concaved face is pressed against the upper ply of the belt over the work support, said belt conforms to the cross sectional shape of the former 26 and thereby takes on the form of the work and effectually polishes all portions of the latter. It will, of course, be understood that each apparatus is equipped with a plurality of formers having various configurations so as to accommodate the apparatus to work of any shape.

As hereinbefore indicated, it is proposed to carry off the dust generated by the action of the abrasive belt upon the work, and this is accomplished by means of an upwardly and rearwardly inclined suction pipe 27 terminating at its forward end in a hood 28 which is open at its front and bottom and has its open bottom in close proximity to the ply of the abrasive belt immediately in rear of the work support, whereby the dust will be caught by the hood and be drawn up through the suction pipe 27. This pipe is connected to the tubular standard 1 by an elbow 29,

whereby the suction pipe is supported and the dust is drawn into the standard 1 and then carried off to any remote point.

In practice, the operator stands in front of the apparatus and brings the work into engagement with the upper ply of the belt immediately over the work holder, and as the dust generated by the belt is immediately carried off through the suction pipe, there is no beclouding of the work and the operator is in no wise annoyed by the dust. Of course it will be understood that the work support is located at a suitable height above the floor to give convenient access thereto by an operator standing upon the floor. Ordinarily, the idle pulley 9 will be smaller than the drive pulley 14 in order that hollow or annular work may be passed over the pulley and engaged upon its inner surface by the upper ply of the abrasive belt, whereby the present apparatus is not confined to straight plain surfaces.

The dust which is carried into the standard 1 may be led out through the top or bottom thereof, according to the surrounding conditions of each individual apparatus. As shown in Fig. 1 of the drawings, the bottom of the standard is closed, while its upper

end is in communication with a suitable suction pipe 30, it being understood that the suction pipe shown is merely a conventional illustration of how the dust may be drawn away from the work.

Having thus described the invention, what is claimed is:—

A polishing apparatus comprising a standard, an arm extending therefrom, a lateral extension upon the arm and constituting a tubular guide, a non-revoluble shank slidably mounted within the guide and having a forked end, an adjusting screw piercing and engaging one end of the guide and bearing against one end of the shank for adjusting the shank, a work support upon the guide, clips extending therefrom and embracing the guide, a former upon the work support, means insertible through the work support for securing the former thereon, a rotatable element within the fork, and an endless abrading device supported by said element and extending over the former.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN GRAMELSPACHER.

Witnesses:

BEMAR TRAYLOR,
LOUIS T. KOERNER.