

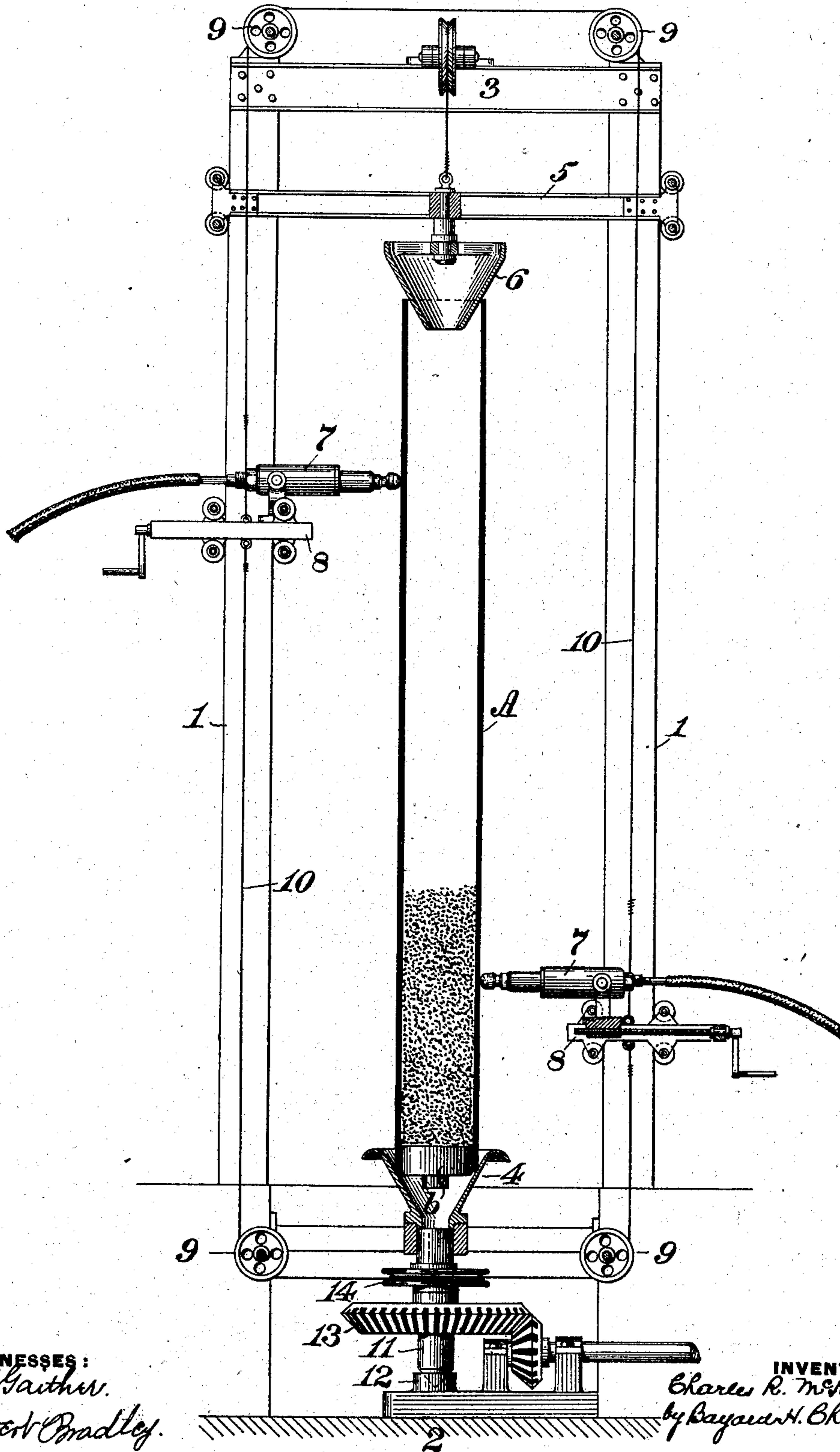
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C. R. McKIBBEN.
MECHANISM FOR PACKING PIPES WITH SAND.

APPLICATION FILED JULY 19, 1902.

NO MODEL.



WITNESSES:
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CHARLES R. McKIBBEN, OF PITTSBURG, PENNSYLVANIA.

MECHANISM FOR PACKING PIPES WITH SAND.

SPECIFICATION forming part of Letters Patent No. 720,053, dated February 10, 1903.

Application filed July 19, 1902. Serial No. 116,167. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. McKIBBEN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Mechanism for Packing Pipes with Sand, of which improvements the following is a specification.

My invention relates to mechanism for packing pipes with sand preparatory to bending them, and has for its object to provide a hammering-machine by means of which a more speedy and more efficient preparation of pipes for bending can be had than has heretofore been possible.

In order to bend a pipe without flattening it at the point of bending, and thus reducing its transverse area, it is found necessary to pack the pipe with sand and thereafter to heat and bend it. In packing the pipe with sand it is necessary to a successful result that the sand be closely packed, and it is the prevailing practice at present while sand is being poured into the pipe to keep up a hammering upon the outside of the pipe in order to agitate the sand and cause it to pack closely. Heretofore it has been customary for workmen to do this hammering by hand. I have found it economical of time to employ a machine for this purpose, and I have found that the machine produces better results than the former manual process.

The accompanying drawing, which forms a part of this specification, shows my machine in elevation.

The machine consists of a frame formed of uprights 1 1 upon a suitable base 2 and connected above by a cross-piece 3. Upon the base is mounted a support 4 for the sections of pipe which are to be filled with sand. A cross-head 5 moves up and down on the frame and bears a hopper 6, through which sand is introduced into the pipe. Automatic hammers 7 7, which are preferably pneumatic, are carried on brackets 8 8, which are adapted to travel up and down on uprights 1 1. Sheaves 9 9 9 9 are placed at the upper and lower extremities of the frame, and around them passes a rope 10. Brackets 8 8 are attached to rope 10, so that by the traveling of the ropes upon the sheaves the brackets

which carry the hammers are caused to travel up and down upon the uprights 1 1. I have found it convenient to mount the support 4 for the pipe so that it may be rotated upon its base and in rotating cause the pipe to revolve beneath the hammers. I have shown in the drawing a simple means of imparting motion both to the support 4 and to the rope 10. The support is mounted on a stem 11, which is rotatable in a bearing 12. Upon the stem 11 a gear-wheel 13 and a sheave 14 are mounted. The former receives a rotary motion from a suitable source of power and imparts it to the support 4 and its stem and the sheave 14. Rope 10 is wound about sheave 14 and by rotating it causes rope 10 to travel upon sheaves 9 9, &c., and thereby the hammers are caused to travel up and down upon the frame.

The operation of the machine is as follows: A section of pipe which is to be bent and which is shown in the drawing in vertical section at A is closed at one end by a suitable plug *b*. The pipe is placed in vertical position in the machine, its closed end resting in support 4. Cross-head 5, which has been withdrawn to admit the pipe to operative position, is lowered until hopper 6 is brought within the upper and open end of the pipe. Sand is then introduced through hopper 6, and as it enters and fills the pipe the automatic hammers pound upon the exterior of the pipe. While the filling occurs the pipe is caused to revolve upon its axis and the hammers are caused to travel up and down on the frame. Thus the hammering is distributed over the outer surface of the pipe. In this operation the particles of sand are agitated and compacted, and when the pipe is filled it is prepared for the bending operation.

I claim herein as my invention—

1. In a machine for packing pipes with sand, the combination of a support for the pipe, tracks extending in the direction of the length of the pipe, and automatic hammers adapted to move upon said tracks, substantially as described.

2. In a machine for packing pipes with sand, the combination of a rotatable support for the pipe and an automatic hammer movable longitudinally in operative proximity to

the exterior surface of the pipe, substantially as described.

3. In a machine for packing pipes with sand, the combination of a support for holding the pipe in vertical position, a vertical frame, a hopper movably mounted on the frame and adapted to enter the upper end of the pipe when the latter is in position, automatic hammers movably mounted on the

frame and adapted to operate upon the surface of the pipe throughout their range of normal movement, substantially as described.

In testimony whereof I have hereunto set my hand.

CHARLES R. MCKIBBEN.

Witnesses:

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