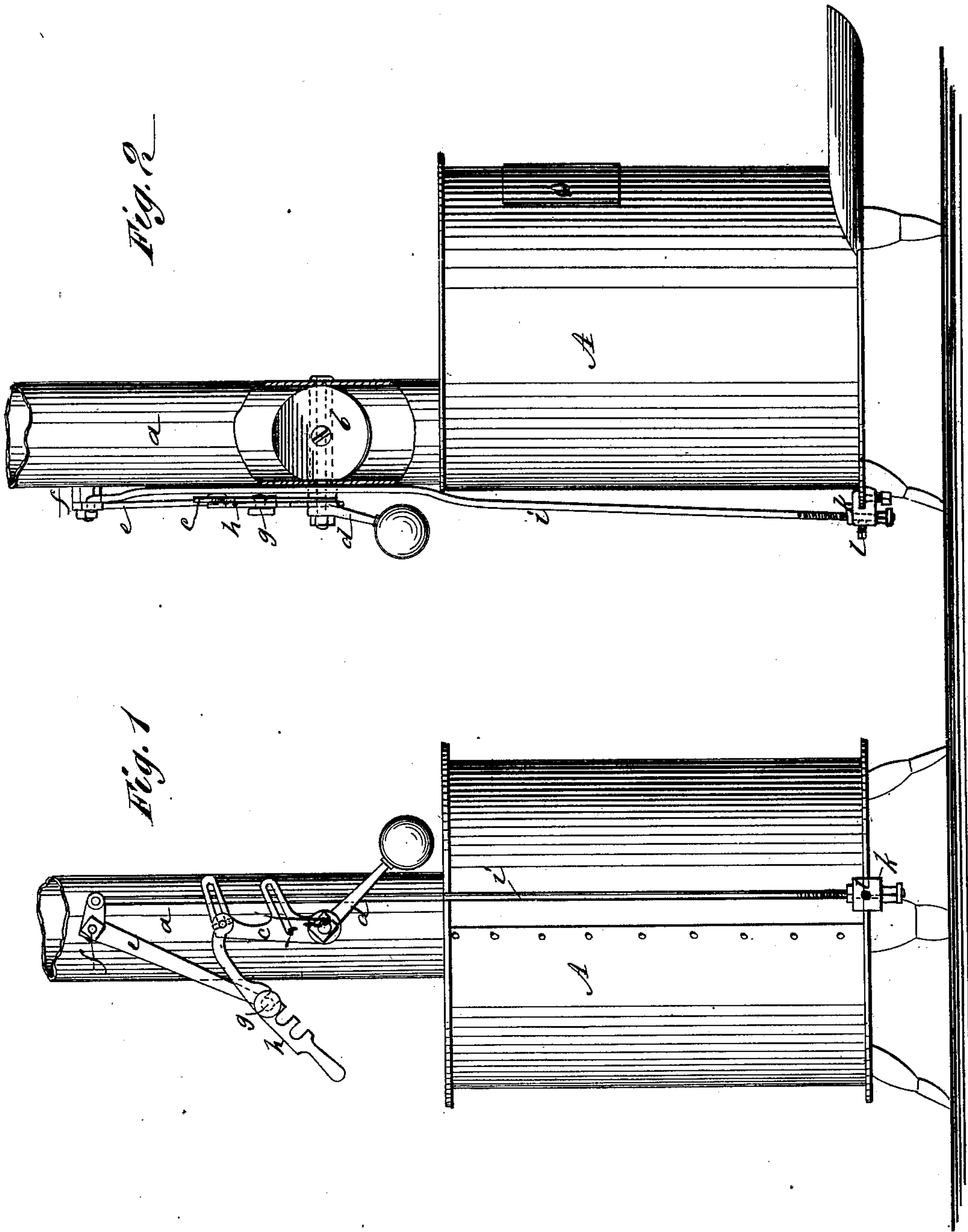


J. S. BRADY.
 Damper for Stoves and Furnaces.
 No. 214,875. Patented April 29, 1879.



WITNESSES:
C. Neveu
C. Sedgwick

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UNITED STATES PATENT OFFICE.

JAMES S. BRADY, OF CLINTONDALE, NEW YORK.

IMPROVEMENT IN DAMPERS FOR STOVES AND FURNACES.

Specification forming part of Letters Patent No. 214,875, dated April 29, 1879; application filed December 13, 1878.

To all whom it may concern:

Be it known that I, JAMES S. BRADY, of Clintondale, in the county of Ulster and State of New York, have invented a new and Improved Automatic Damper for Stoves and Furnaces, of which the following is a specification.

The object of my invention is to furnish stoves and heaters with automatically-acting devices connected with the dampers, whereby the draft will be regulated by the heat of the stove; and the invention consists in certain novel details of construction, whereby the parts may be readily and accurately adjusted, as more particularly set forth in connection with the drawings, wherein—

Figure 1 is a front elevation of my automatic devices in connection with a stove. Fig. 2 is an elevation at right angles to Fig. 1, with the stove-pipe broken open.

Similar letters of reference indicate corresponding parts.

The metal stove A and its pipe *a* may be of any desired character, and the devices constituting my invention are applied in connection with the damper *b* in pipe *a*. The projecting end of the spindle of damper *b* is squared, and carries a lever-arm, *c*, and the arm *d*, that is weighted, so as to retain damper *b* open normally. The arms *c* and *d* are retained in place by a nut at the outer end of the spindle. *e* is a crank-lever, fulcrumed on a stud, *f*, that is attached to pipe *a* a suitable distance above the damper, the longer arm of which lever *e* has upon its outer end a headed pin, *g*, for connection of the link *h*, that is also connected to arm *c* of the damper.

The connection of link *h* to arm *c* is made by means of a pin on *h*, that enters either one of the slots in arm *c*, and this pin has a T-head, which, when the link is attached to lever *e*, prevents separation; but the parts may be disconnected by turning link *h* until the T-head is in line with the slots.

The connection between *e* and *h* is made by open slots in *h*, into any one of which the pin *g* may enter, according to the adjustment that

is required; and to facilitate manipulation, the outer end of *h* is formed as a handle, by which it can be lifted and the adjustment made.

To the short arm of lever *e* is connected one end of a vertical rod, *i*, the lower end of which rod is rigidly connected to the rim of the stove, base, or bottom plate by means of a coupling, *k*, that is slotted to sit on the rim of the stove, and held in place by a set-screw.

The rod passes through coupling *k*, and carries a nut at the upper and under side of *k*, so that the length of rod *i* can be adjusted, and then the parts clamped.

By using the coupling device *k* the mechanism can be attached to any stove without boring holes or cutting any part.

The coupling *k* is also provided with a set-screw, *l*, for clamping rod *i* when the nuts are not used; and in some cases the rod *i* may be more conveniently attached to the floor instead of the base.

The parts named being connected as described, and adjusted so that damper *b* is held open by weighted arm *d*, the draft through the stove is then free, and the fire in the stove can burn briskly.

When the stove and pipe become heated the expansion will be from the base upward, and rod *i*, being comparatively cool and of heavier metal than the stove, will not expand, so that the effect will be to swing lever *e*, and by link *h* and arm *c* close the damper. This will be done in proportion to the heat of the fire, which, if sufficient, may close the damper entirely.

By adjustment of the parts as mentioned, the fire can be checked sooner or later, as is desired, and the weighted arm will operate to open the damper as the stove cools.

The connection of the link *h* to lever *e* may be made by a thumb-screw passing through a slot in the link, instead of the loose connection shown.

The automatic regulating mechanism described may be used in connection with steam-heating apparatus, either for regulating the

fire at the boiler or governing the admission of steam to a heating coil. I do not limit myself in this particular.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

In an automatic damper-regulator, substantially as described, the slotted arm *c* and link

h, the link *h* being provided with a T-headed pin and connected removably with the lever *e*, substantially as and for the purposes set forth.

JAMES SMITH BRADY.

Witnesses:

GEO. D. WALKER,

C. SEDGWICK.