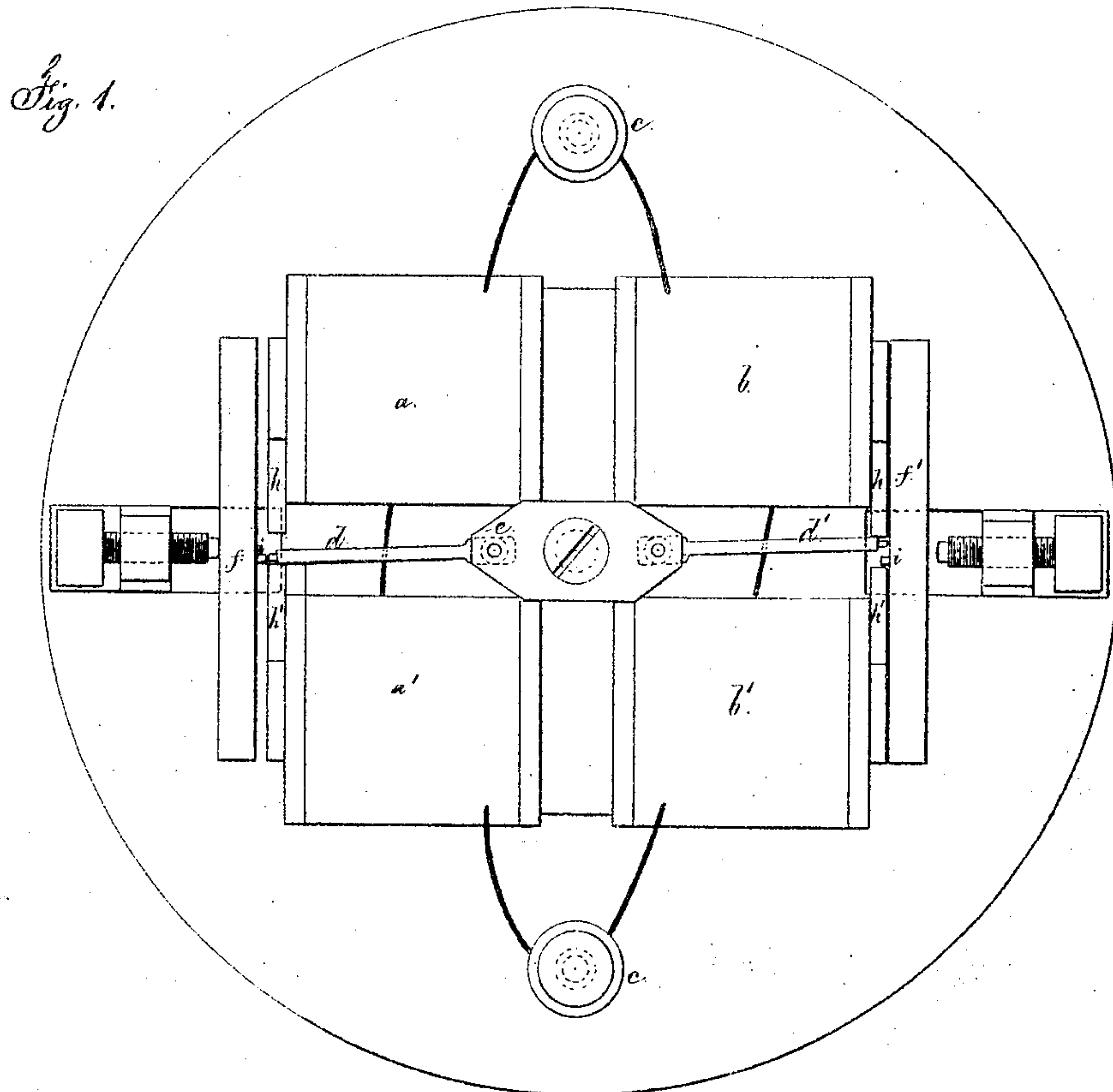
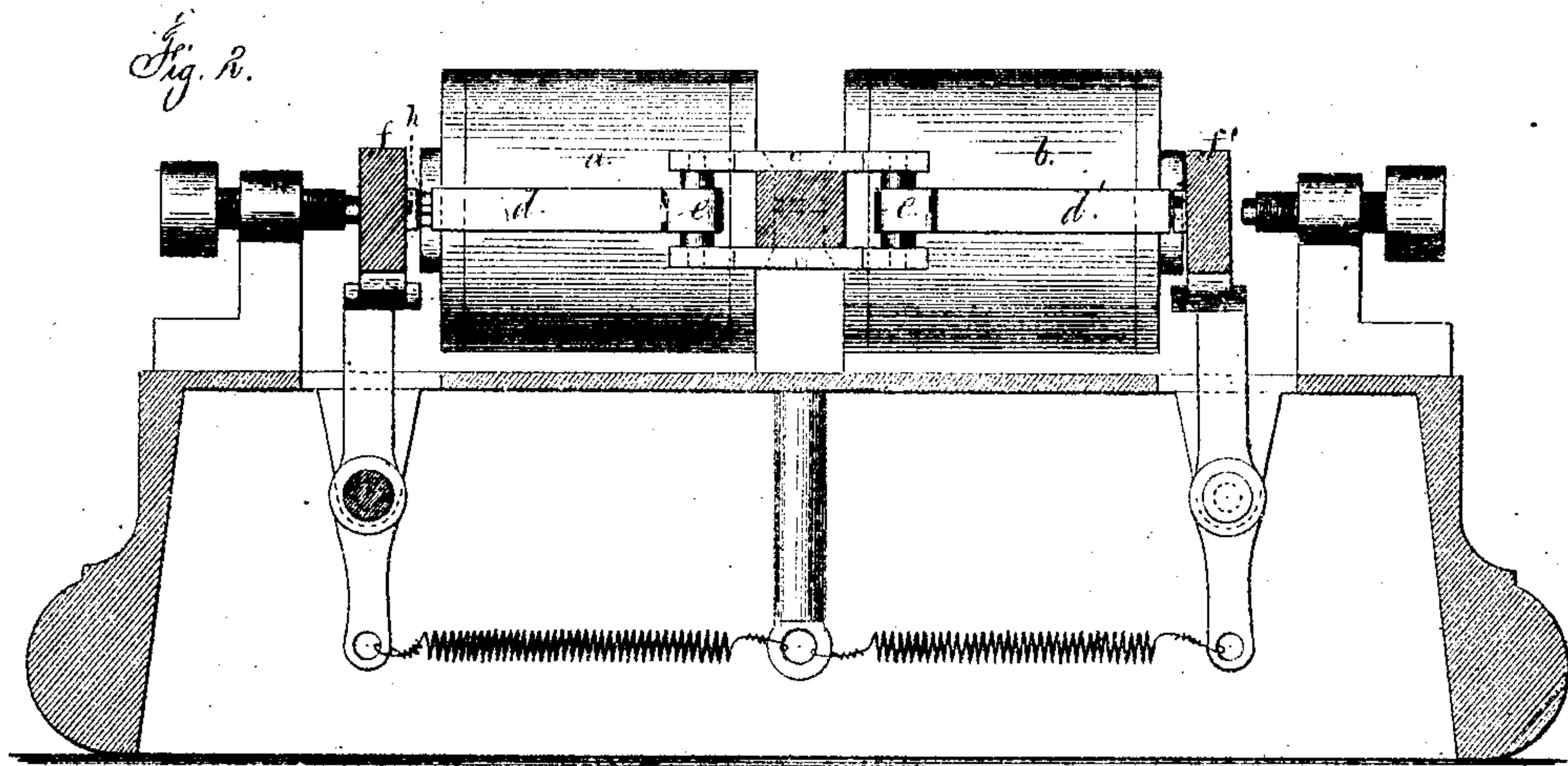


No. 114,658.

PATENTED MAY 9, 1871.

T. A. EDISON.
ELECTROMAGNET FOR TELEGRAPH INSTRUMENTS.



Witnesses,

Chas. H. Smith

Geo. A. Walen

Thomas A. Edison

United States Patent Office.

THOMAS A. EDISON, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF
AND MARSHALL LEFFERTS, OF NEW YORK CITY.

Letters Patent No. 114,658, dated May 9, 1871.

IMPROVEMENT IN ELECTRO-MAGNETS FOR TELEGRAPH INSTRUMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, THOMAS A. EDISON, of Newark, in the county of Essex and State of New Jersey, have invented and made a new and useful Improvement in Electro-Magnets for Telegraphs, &c.; and the following is hereby declared to be a correct description thereof.

This improvement relates to a means for rendering an electro-magnet inoperative when a current of one polarity is used, and operative when a current of the opposite polarity is employed so that two different operations may be performed in a telegraph or other machine with only one wire.

The invention consists in a blocking-finger or stop, that prevents the movement of the armature, said stop being operated according to the polarity of the electro-magnet.

In the drawing—

Figure 1 is a plan of a double magnet, and

Figure 2 is a vertical section.

The magnets *a a'* and *b b'* are of any ordinary or desired construction, and are connected with the line-wires of a telegraph or the electrical circuit in any usual manner, *c c* representing the binding-screws, and the connections are substantially as shown, so that the pulsations of electricity pass through the magnet or magnets.

Between the poles of the magnet a finger, *d*, is fitted to swing on the fulcrum *e*, and the end is continuous to the armature *f*, and there is a block or equivalent device, as at *i*, so that when the finger *d* is swung toward the pole *a* the armature *f* will be free to vibrate; but when said finger *d* is swung toward the pole *a'* the armature will be locked, so that it cannot vibrate.

The locking action may be of the character shown, so that the armature may be kept away from the

magnets, or in the form of a hook, to keep the armature toward the magnet.

The electro-magnets are provided with the lateral arms *h h'*, and these become polarized, according to the positive or negative polarity of the current; hence the finger *d* is attracted or repelled, and swung to one side to block the armature, or to the other side to release the same.

This construction may be availed of to render operative or inoperative one electro-magnet in any machinery. I, however, have represented a double magnet constructed and connected so that one armature, *f'*, can be locked and rendered inoperative by the finger *d'*, while the armature *f* is operative, in consequence of the finger *d* being swung out of action, and *vice versa*, the operations being reversed by changing the polarity of the currents, the pulsations always going through the magnets; and in these particulars this present invention is to be distinguished from those heretofore made by me, in which the polarity of the current operates devices that divert the current from one magnetic coil into another.

I claim as my invention—

1. A finger or stop operated by electro-magnetism, and arranged so as to block or release the armature according to the polarity of the electrical current passing through the magnet, substantially as specified.

2. The double electro-magnet, armatures, and stops, arranged substantially as specified, so that a current of one polarity shall allow one armature to vibrate and block the other, and the reverse, as set forth.

Signed by me this 22d day of June, A. D. 1870.

THOMAS A. EDISON.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.